



# **Registro de Insuficiencia Cardíaca Descompensada**

**ENMIENDA I**

**Comité de Insuficiencia Cardíaca e Hipertensión Pumonar  
Federación Argentina de Cardiología**

**2014-2016**



## TITULO

### Registro de Insuficiencia Cardíaca Descompensada 2013/2014

## AUTORES

Comité de Insuficiencia Cardíaca e Hipertensión Pulmonar de la Federación Argentina de Cardiología

## RESUMEN

La insuficiencia cardíaca descompensada (ICD) es una patología que ha incrementado su prevalencia como resultado del aumento de la insuficiencia cardíaca en el mundo. Un 2% aproximadamente de la población mundial padece esta patología elevándose a más del 15% en los mayores de 65 años. Las descompensaciones obedecen a diferentes causas según el tipo de tratamiento aplicado, seguimiento y control médico y las características propias del cuadro clínico de ingreso. La ausencia de registros amplios y representativos en nuestro país nos ha planteado como desafío la concreción de uno que nos permita incluir a su vez diferentes asociaciones (IC y anemia, IC y embarazo e IC con FE preservada y reducida).

## HIPOTESIS

La realización de un registro nacional de ICD, mediante la colaboración entre diferentes centros asistenciales, permitirá obtener un perfil epidemiológico más amplio y adecuado de la patología en nuestro país.

## OBJETIVOS

1. Registrar las características de los pacientes portadores de insuficiencia cardíaca que han padecido un episodio de descompensación
2. Realizar un seguimiento posterior 90 días posteriores al alta. Seguimiento opcional a 30, 60 y 365 días
3. Realizar el sub-registro de los pacientes portadores de IC con FE reducida
4. Realizar el sub-registro opcional de los pacientes portadores de IC con FE preservada
5. Realizar el sub-registro opcional de los pacientes portadores de IC y anemia
6. Realizar el sub-registro opcional de los pacientes portadores de IC y embarazo

## MATERIAL Y MÉTODOS

El registro se desarrollará y coordinará con la conformación de un Comité Científico Coordinador (CCC) integrado por profesionales del Comité de Insuficiencia Cardíaca e Hipertensión Pulmonar de la Federación Argentina de Cardiología.

Se integrarán investigadores del Comité de IC e HP de la FAC. La Coordinación de los mismos estará a cargo del Dr. Guillermo Cursack. Se realizará un registro multicéntrico, observacional, prospectivo ingresando los casos incidentes definidos por aquellos diagnosticados entre 01 de Diciembre de 2014 y 01 de Marzo de 2016.

El síndrome de ICD puede presentar diferentes formas clínicas, que no siempre es posible diferenciar en el momento del ingreso del paciente, pero pueden ser de utilidad en el manejo intra-hospitalario y en la evolución después del alta:

a) Paciente que ingresa al departamento de emergencia por un empeoramiento de su cuadro crónico de IC, constituyendo el 70% de todas las admisiones por ICAD, ya sea, con función sistólica del ventrículo izquierdo (VI) disminuida o preservada.

b) Paciente que ingresa con cuadro de IC de reciente comienzo. Esta situación puede ocurrir después de un infarto agudo de miocardio (IAM), una crisis de elevación rápida de la presión arterial (HTA), y en general se presentan con un VI alterado (constituyen el 25% de todos los ingresos)

c) Pacientes con severa y avanzada IC, en general con escasa o poca respuesta al tratamiento, habitualmente con muy baja fracción de eyección del VI (FEVI), y que suelen ser gatilladas por enfermedades asociadas transitorias o permanentes como algún episodio de infección broncopulmonar, descompensación de su diabetes, etc., correspondiendo al 5% de las admisiones.

## **CRITERIOS DE INCLUSIÓN**

Pacientes hospitalizados por insuficiencia cardíaca descompensada que cumplan con al menos dos de las categorías de diagnóstico:

1. Signos y síntomas compatibles con un cuadro clínico de ICD
2. Evidencias de cardiopatía estructural
3. Respuesta al tratamiento
4. Necesidad de tratamiento endovenoso con diuréticos, inotrópicos y/o vasodilatadores

## **CRITERIOS DE EXCLUSIÓN**

- ◆ Síndrome coronario agudo en los 3 meses previos (angina inestable, IAM, CRM o ATC)
- ◆ Enfermedad grave (tumoral, hepática o renal) con pronóstico ominoso a corto plazo
- ◆ Imposibilidad de realizar un seguimiento adecuado

Se utilizará un soporte informático previsto por el Centro de Teleinformática Médica de la Federación Argentina de Cardiología (CETIFAC) dependiente de la Facultad de Ingeniería/Bioingeniería/CONICET de la Universidad Nacional de Entre Ríos (UNER), que constará de un portal web con usuario y contraseña para cada investigador que integre el registro. Sólo tendrán acceso a los datos ingresados el investigador implicado y el/los coordinadores que sean designados al efecto.

## **ESTADÍSTICA**

Las variables categóricas se expresarán como porcentajes y se compararán con el Test de Pearson Chi-cuadrado. Las variables continuas se presentarán como media y desvío estándar, y se compararán con el Test de Student o el Test de Mann-Whitney U. Las variables de los factores asociados a la mortalidad y las hospitalizaciones se evaluarán en un análisis univariado y multivariado mediante el modelo proporcional de Cox. Se construirán curvas de supervivencia de Kaplan-Meier. Un valor de  $p < 0,05$  en todos los análisis se considerará estadísticamente significativo. Todos los análisis estadísticos se realizarán con el programa SPSS 18,0 (SPSS Inc., Chicago, IL).

## **Comité Científico Coordinador (CCC)**

Su rol será conducir la realización del registro en todos sus aspectos, contará con dos grupos de apoyo: el grupo de control de datos y el grupo de publicaciones. Ambos dependen directamente del CCC.

Integrantes:

Dr. Diego Federico Echazarreta  
Dr. Eduardo Perna  
Dr. Roberto Colque  
Dra. Lilia Lobo Marquez  
Dra. Daniela García Brasca  
Dr. Pablo Nasca

## **Grupo de control de datos**

Su rol es garantizar la calidad de los datos ingresados en el registro. Realizará el monitoreo de los datos desde los distintos centros participante y se ocupará de analizar si se cumplen los criterios de inclusión/exclusión y el envío en tiempo y forma de los datos. También realizará visitas de auditoría a los centros participantes con el objetivo de entrenamiento y control de la carga o ingreso de los datos. Estará en contacto directo con el centro único de datos para evaluar los datos ingresados por los diferentes centros. Finalmente, brindará opinión experta sobre el diseño del registro en cuanto a tópicos nuevos a explorar.

Integrantes:

Dr. Pablo Címbaro Canella  
Dra. María Lorena Coronel  
Dr. Pablo Alvarenga  
Dr. Guillermo Cursack  
Dr. Cristian Botta

## **Política de publicaciones**

Los médicos participantes en el registro que desean llevar adelante un proyecto de investigación utilizando las variables incluidas, enviarán el protocolo al CCC. Se analizará cada proyecto considerando el aspecto científico del mismo. Se consultará al asesor estadístico sobre la factibilidad del proyecto. El CCC solicitará al Centro de datos que libere al investigador principal del proyecto y los datos requeridos para la realización del proyecto.

Una vez finalizado el proyecto, el investigador principal lo enviará al CCC para su revisión/aprobación. Para ser investigador principal y poder plantear una hipótesis de trabajo, su centro debe cubrir un mínimo de pacientes incluidos. El investigador debe incorporar al proyecto de investigación a los médicos participantes que más pacientes incluyeron. Se consideran autores al investigador que realizó el proyecto de investigación y el resto se asignarán de acuerdo al número de pacientes incorporados y su interés en el proyecto.

## **Centro único de datos (Centro de Teleinformática Médica de FAC: CETIFAC)**

Es el área que manejará la base de datos, realizará el mantenimiento del registro y controlara la carga de datos desde los diferentes centros. No brindará información a pedidos personales de los médicos participantes si no es en el marco de un proyecto de investigación que tenga el aval del grupo de publicaciones y del CCC. El centro único de datos reportará sobre el avance del registro al CCC.

## **Monitor de Datos**

Será el responsable de controlar la calidad de los datos ingresados realizando un seguimiento de cada centro integrante del registro y de los investigadores participantes.

## **Política de propiedad y de publicación**

El Registro de ICD es un proyecto multicéntrico. Los médicos que participan en el registro son propietarios de los datos de su propio sitio o centro. Los datos consolidados, señalados anónimos, son propiedad del CCC.

## **Captura de datos y seguridad**

Se utilizará un sistema avanzado de captura electrónico de datos a través de internet. El acceso a la base de datos estará restringido a los usuarios autorizados quienes se identificarán así mismos con una clave (código) de identificación de usuario única y una contraseña (User ID and Password). Se utilizará una conexión https:// para la transferencia segura de los datos. Los datos serán codificados durante la transferencia en Internet y serán almacenados en una base de datos protegida para acceso no autorizado.

## **Confidencialidad de los datos del paciente**

La privacidad de los pacientes en el registro será garantizada dado que los nombres o iniciales de los pacientes no se almacenarán en la base de datos. Los pacientes serán identificados por una clave de paciente única. (Al introducir los datos filiatorios del paciente el sistema los manda a un cofre cerrado y genera la clave única del paciente). Cada centro tendrá acceso solo a los datos de aquellos pacientes bajo su cuidado directo

## **Control de calidad de los datos**

El uso del sistema avanzado de captura electrónica de datos permitirá checar la calidad de los datos al introducirlos y verificará por datos faltantes e información incompleta. Todo el manejo de los datos y el análisis ocurrirá en un ambiente computarizado validado. Los datos del registro no serán verificados o confrontados con los documentos de origen.

## **Consejo de Revisión Institucional (CRI) / Comité de Ética Independiente (CEI)**

Dependiendo de las regulaciones locales y las políticas de la institución del médico participante, el médico puede tener que someter el registro del protocolo, una forma de la carta de autorización del paciente y otra de información relevante al CRI/CEI. En tal caso, la aprobación del CRI/CEI debe ser obtenida antes de introducir los datos a la base de datos. La información/Aprobación del CRI debe estar documentada en una carta dirigida al médico participante, identificando claramente el nombre del registro, los documentos revisados y la fecha de aprobación.

## **Autorización del paciente**

De cada paciente se obtendrá la autorización apropiada (consentimiento adjunto) si así lo requieren las políticas institucionales o las regulaciones de privacidad nacional o estatal que se relacionan a la información médica. Lo anterior debe hacerse antes de introducir datos al registro de ICD.

## **Retiro del Paciente**

La participación del paciente es voluntaria. En cualquier momento, el paciente puede retirar su consentimiento para participar sin que ello afecte su atención médica o tratamiento

## **Retiro de un Investigador o Centro.**

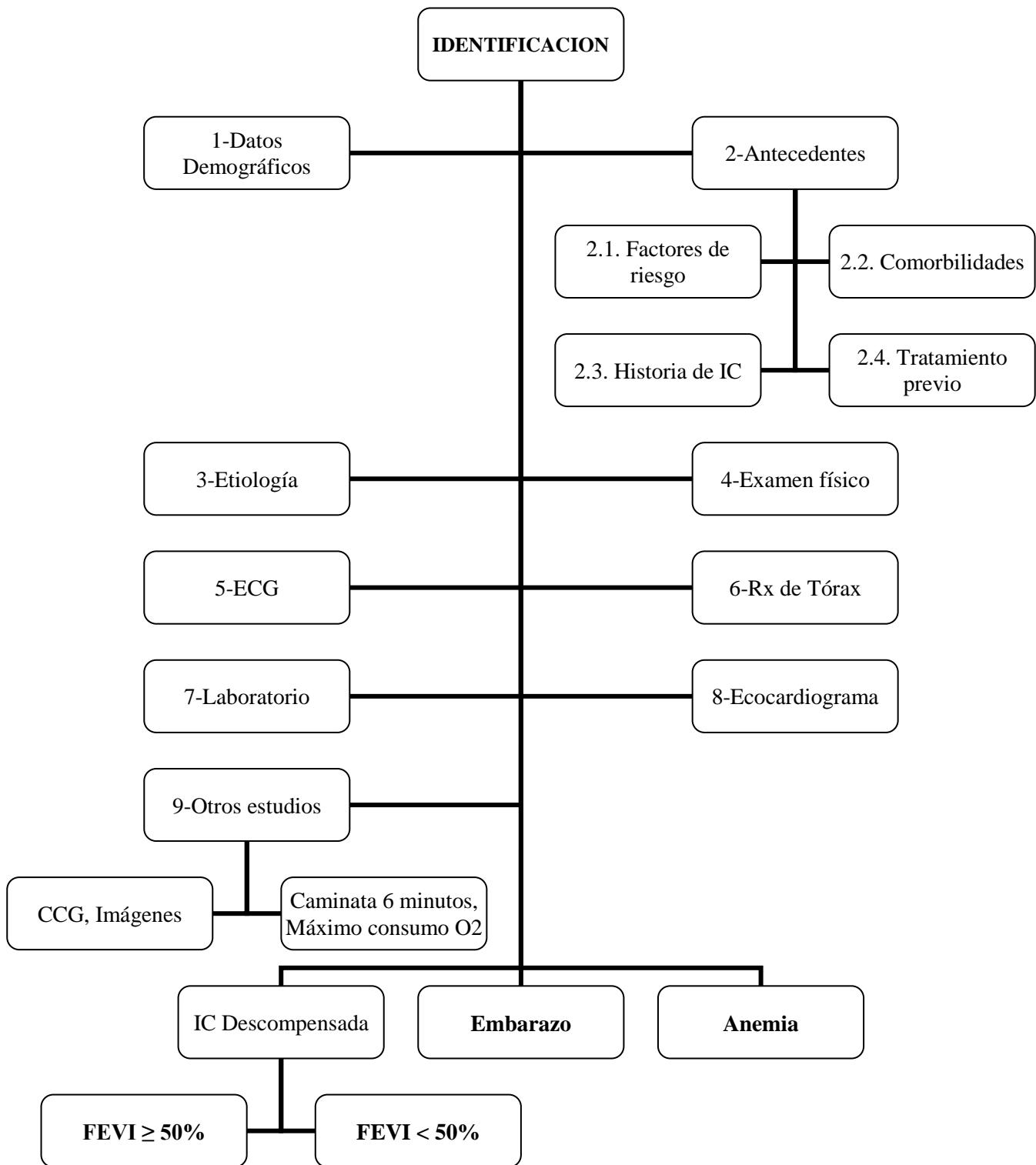
El reglamento contempla el retiro voluntario o no de un investigador o de un centro. Los pacientes que fueron incluidos por ellos al registro permanecerán en el mismo.

# ANEXO

## PROTOSCOLOS

### **Registro de Insuficiencia Cardíaca Descompensada**

- ♣ IC con fracción de eyección preservada
- ♣ IC con fracción de eyección reducida
- ♣ IC y anemia
- ♣ Embarazo e IC - REMBICA





## IDENTIFICACION

Centro	Paciente	Iniciales	Fecha Inclusión	Registro							
				IC aguda FE preservada		IC aguda FE reducida		IC en embarazadas		IC y anemia	
				Incluido	Completo	Incluido	Completo	Incluido	Completo	Incluido	Completo
---	-----	---	--/--/--	Sí/No	Sí/No	Sí/No	Sí/No	Sí/No	Sí/No	Sí/No	Sí/No
---	-----	---	--/--/--								
---	-----	---	--/--/--								
---	-----	---	--/--/--								
---	-----	---	--/--/--								
---	-----	---	--/--/--								
---	-----	---	--/--/--								

## 1-Datos demográficos

N° centro: \_\_\_ N° paciente: \_\_\_\_\_ Iniciales: \_\_\_ Fecha de Nacimiento: \_\_/\_\_/\_\_\_\_\_

Edad: (calcular) Sexo: M / F Provincia: (lista de provincias)

Obra social: (PAMI /Provincial / Otra OS / Prepaga/ Sin cobertura)

## 2-Antecedentes

### 2.1. Factores de riesgo

HTA  TBQ actual  Ex TBQ  DLP  Obesidad  DBT  Alcoholismo

### 2.2. Comorbilidades

ACV  Neoplasia  EPOC  IRC  Diálisis  Demencia  TEP

Anemia  Hepatopatía  Artrosis  SIDA  Hipotiroidismo  Hipertiroidismo

Arteriopatía periférica  Fibrilación auricular \_\_\_\_\_ Chagas (+)  Infarto Previo

Angina crónica  Cirugía Valvular  TVS/FV/MS  Apnea sueño

### 2.3. Historia de IC

Presencia de síntomas de IC: (< 30 días/ > 30 días) Tiempo de evolución: \_\_\_\_\_ meses

Diagnóstico previo  Internaciones previas por IC:  Número de internaciones último año: \_\_

Valoración previa de función ventricular:  (Normal o FEVI  $\geq$  50% / deterioro leve o FEVI: 49-40% / deterioro moderado o FEVI: 39-30% / deterioro severo o FEVI: < 30%)

Disnea de esfuerzo  Fatiga  Clase Funcional habitual: (I / II / III / IV)

### 2.4. Tratamiento previo

Angioplastia/Stent  CRM  Marcapasos Definitivo  Resincronizador:  CDI

Betabloqueantes  droga \_\_\_\_\_ dosis \_\_\_\_\_ mg/d IECA  droga \_\_\_\_\_ dosis \_\_\_\_\_ mg/d

Inhibidores ATII  Droga \_\_\_\_\_ dosis \_\_\_\_\_ mg/d Bloq. cálcicos  Droga \_\_\_\_\_

Antagonista Aldosterona  Droga \_\_\_\_\_ dosis \_\_\_\_\_ mg/d Furosemida  Dosis Furo \_\_\_\_\_ mg

Hidroclorotiazida  Nitritos  AAS  Amiodarona  Digoxina  Anticoagulantes

Ivabradina  Estatinas  Otro hipolipemiante

## 3-Etiología (Sólo la causa principal)

Isquémico/necrótica:  Hipertensiva:  Chagásica:  MCP Hipertófica:

Idiopática:  Alcohólica:  Miocarditis:  MCP Restrictiva:

Valvulopatía severa:  Aclarar: \_\_\_\_\_ No establecida:  Otra  Aclarar: \_\_\_\_\_

## 4-Examen físico

TA: \_\_\_/\_\_\_ mmHg FC: \_\_\_ l/min FR: \_\_\_/min Talla: \_\_\_ cm Peso: \_\_\_ kg IMC: \_\_\_ (calcular)

Superficie corporal \_\_\_ m2 (calcular)

Estado clínico: Compensado  Descompensado

Score de Congestión Basal: Disnea \_ Ortopnea \_ Edema \_ Ing yugular \_ Rales \_

Necesidad aumento diuréticos \_ Aumento de peso > 1kg \_

## 5-ECG

ECG  Normal  Ritmo \_\_\_\_\_ BCRD:  BCRI:  OndasQ:  QRS: \_\_\_ mseg

QTm: \_\_\_ mseg PR \_\_\_ mseg

## 6-Rx Tórax

Rx TORAX  Normal  Cardiomegalia >0.55  Congestión pulmonar  Edema alveolar

### 7-Laboratorio

Hematocrito \_\_, \_\_ % Hemoglobina \_\_, \_\_ g/dl Globulos blancos \_\_\_\_\_ /mm3 Plaquetas \_\_\_\_\_

\_\_\_\_ /mm3 Glucemia \_\_, \_\_ mg/dl Urea \_\_, \_\_ g/l Creatinina \_\_, \_\_ mg/dl MDRD (calcular)

Sodio \_\_\_ mEq/l Potasio \_\_, \_\_ mEq/l GOT \_\_\_\_\_ UI/l GPT \_\_\_\_\_ UI/l GGT \_\_\_\_\_ UI/l

Bilirrubina total \_\_, \_\_ mg/dl Bilirrubina directa \_\_, \_\_ mg/dl Proteinas \_\_, \_\_ g/l Albúmina \_\_, \_\_ g/l

Colesterol Total \_\_\_ mg/dl

Ac. Urico \_\_, \_\_ BNP \_\_\_\_\_, \_\_ pg/ml NT-proBNP \_\_\_\_\_, \_\_ pg/ml Tnl \_\_\_\_\_, \_\_ ng/ml TnT \_\_\_\_\_,

\_\_\_\_ ng/ml TnTus Tnl \_\_\_\_\_, \_\_ pg/ml TP \_\_\_ seg pH \_\_, \_\_ CO2 \_\_, \_\_ mmHg pO2 \_\_\_\_\_,

mmHg Sat O2 \_\_\_% Bicarbonato \_\_, \_\_ EB \_\_\_\_\_,

## 8-Ecocardiograma

Tipo \_\_\_\_\_ AI \_\_ mm VIDD \_\_\_\_\_ mm VIDS \_\_\_\_\_ FEVI \_\_\_ HVI

Evaluación cualitativa de función del VI: \_\_\_\_\_ Patrón de lleno VI \_\_\_\_\_

Valvulopatía Severa  En caso afirmativo, cual: EAO:  IAO:  EM:  IM:  IT

PSP \_\_\_ mmHg E/E' \_\_\_\_\_

## 9-Otros estudios

CCG  En caso afirmativo complete ACN  1 vaso  2 vasos  3 vasos  Tronco

Perfusión miocárdica  En caso afirmativo: Normal  Isquemia  Necrosis  Viabilidad Positiva

Radiocardiograma  En caso afirmativo: FEyBasal \_\_\_ % Fey esfuerzo \_\_\_%

Caminata de 6 minutos  Distancia recorrida \_\_\_ metros MVO2: \_\_, \_\_

Holter  EEF  Otro estudio (15 caracteres)

## IC DESCOMPENSADA

### Admisión

Fecha de Internación \_\_/\_\_/\_\_\_\_ Lugar de internación inicial \_\_\_\_\_

Congestión sistémica  Congestión pulmonar  Edema de pulmón  Síndrome de Bajo gasto

Shock cardiogénico  Perfil húmedo  Perfil seco

### Descompensación

Inicio <12 horas  Se identificó un factor descompensante: No  Si  Si es Si, complete lo siguiente.

Cual?: Transgresión Alimentaria  Modificación del Tratamiento  Arritmia Supraventricular

Anemia  Arritmia Ventricular  Crisis Hipertensiva

Isquemia/infarto  Infección  TEP

Otra: (20 caracteres)

### Procedimientos intrahospitalarios

Cardioversión:  Desfibrilación  Vía central  O2 con máscara  CPAP  BiPAP  ARM

CRM  ATC  Cirugía valvular  Balón de contrapulsación  Ultrafiltración  Diálisis

Transplante  CDI  Marcapasos transitorio  Marcapasos definitivo  Resincronización

Estimación presiones con Doppler/tisular  E/E': \_\_, \_\_ CCG-IH

Swan-Ganz:  PAD basal \_\_ mmHg PAD final \_\_ mmHg PCP basal \_\_ mmHg PCP final \_\_ mm

IC basal \_\_, \_\_ I IC final \_\_, \_\_ I RVS basal \_\_\_\_\_ dinas RVS final \_\_\_\_\_ dinas

### Tratamiento intrahospitalario

Incremento de diuresis VO:

Incremento de diuresis IV:  Diuréticos bolo  Diuréticos infusión  Dopamina < 5 gammas

Inotrópicos/presores IV:  Dobutamina  Dopamina > 5 gammas  Levosimendan  Otro

Vasodilatadores IV  NPS  NTG

### Evolución intrahospitalaria

**Complicaciones:**  En caso afirmativo seleccione las que se aplican

Embolia de pulmón:  Infección:  ACV:  TV/FV:  Fallo renal

Arritmia supraventricular:  Shock Cardiogénico/hipotensión:

**IC refractaria:**  Día de internación en que se diagnosticó IC refractaria \_\_

**Muerte:**  Fecha \_\_/\_\_/\_\_\_\_ Causa: \_\_\_\_\_

### Alta hospitalaria

Fecha Alta o Muerte \_\_/\_\_/\_\_\_\_ Días UCIC/UTI \_\_ Días totales (calcular desde ingreso)

Estado del paciente: Peso \_\_\_\_, \_\_kg Asintomático  Mejor, pero aún sintomático

Score de Congestión al alta: Disnea \_\_ Ortopnea \_\_ Edema \_\_ Ing yugular \_\_ Rales \_\_

Necesidad aumento diuréticos \_\_ Aumento de peso > 1kg \_\_

Creatinina prealta (Nuevo valor de creatinina obtenido luego de 48 hs de la admisión) \_\_\_\_\_ mg/dL

Betabloqueantes  droga \_\_\_\_\_ dosis \_\_\_\_\_ mg/d IECA  droga \_\_\_\_\_ dosis \_\_\_\_\_ mg/d

Inhibidores ATII  Droga \_\_\_\_\_ dosis \_\_\_\_\_ mg/d Bloq. cálcicos  Droga \_\_\_\_\_

Antagonista Aldosterona  Droga \_\_\_\_\_ dosis \_\_\_\_\_ mg/d Furosemida  Dosis Furo \_\_\_\_\_ mg  
Hidroclorotiazida  Nitritos  AAS  Amiodarona  Digoxina  Anticoagulantes   
Ivabradina  Estatinas  Otro hipolipemiante

Recomendaciones

Dejar de fumar  Dieta hiposódica (2 gr sal)  Restricción hídrica (<1,5 litro por día)   
Ejercicio regular  Rehabilitación  Visita de control dentro de 30 días   
Laboratorio control  Control periódico de peso  Régimen elástico de diuréticos

Control 30 días

Fecha \_\_/\_\_/\_\_\_\_

Internación  Fecha \_\_/\_\_/\_\_\_\_ Causa \_\_\_\_\_ Muerte:  Fecha \_\_/\_\_/\_\_\_\_ Causa: \_\_\_\_\_

Peso \_\_\_\_\_kg

Score de Congestión 30 días: Disnea \_ Ortopnea \_ Edema \_ Ing yugular \_ Rales \_

Necesidad aumento diuréticos \_ Aumento de peso > 1kg \_

Creatinina (Luego del alta) \_\_, \_\_ mg/dL Hematocrito \_\_, % Hemoglobina \_\_, \_\_ g/dl

Betabloqueantes  droga \_\_\_\_\_ dosis \_\_\_\_\_ mg/d IECA  droga \_\_\_\_\_ dosis \_\_\_\_\_ mg/d

Inhibidores ATII  Droga \_\_\_\_\_ dosis \_\_\_\_\_ mg/d Bloq. cálcicos  Droga \_\_\_\_\_

Antagonista Aldosterona  Droga \_\_\_\_\_ dosis \_\_\_\_\_ mg/d Furosemida  Dosis Furo \_\_\_\_\_ mg

Hidroclorotiazida  Nitritos  AAS  Amiodarona  Digoxina  Anticoagulantes

Ivabradina  Estatinas  Otro hipolipemiante

Control 90 días

Fecha \_\_/\_\_/\_\_\_\_

Internación  Fecha \_\_/\_\_/\_\_\_\_ Causa \_\_\_\_\_ Muerte:  Fecha \_\_/\_\_/\_\_\_\_ Causa: \_\_\_\_\_

Peso \_\_\_\_\_kg

Score de Congestión 90 días: Disnea \_ Ortopnea \_ Edema \_ Ing yugular \_ Rales \_

Necesidad aumento diuréticos \_ Aumento de peso > 1kg \_

Creatinina (Luego de 30 días) \_\_, \_\_ mg/dL Hematocrito \_\_, % Hemoglobina \_\_, \_\_ g/dl

Betabloqueantes  droga \_\_\_\_\_ dosis \_\_\_\_\_ mg/d IECA  droga \_\_\_\_\_ dosis \_\_\_\_\_ mg/d

Inhibidores ATII  Droga \_\_\_\_\_ dosis \_\_\_\_\_ mg/d Bloq. cálcicos  Droga \_\_\_\_\_

Antagonista Aldosterona  Droga \_\_\_\_\_ dosis \_\_\_\_\_ mg/d Furosemida  Dosis Furo \_\_\_\_\_ mg

Hidroclorotiazida  Nitritos  AAS  Amiodarona  Digoxina  Anticoagulantes

Ivabradina  Estatinas  Otro hipolipemiante

Control 1 año

Fecha \_\_/\_\_/\_\_\_\_

Internación  Fecha \_\_/\_\_/\_\_\_\_ Causa \_\_\_\_\_ Muerte:  Fecha \_\_/\_\_/\_\_\_\_ Causa: \_\_\_\_\_

Peso \_\_\_\_\_kg

Score de Congestión 90 días: Disnea \_ Ortopnea \_ Edema \_ Ing yugular \_ Rales \_

Necesidad aumento diuréticos \_ Aumento de peso > 1kg \_

Creatinina (Luego de 30 días) \_\_, \_\_ mg/dL Hematocrito \_\_, % Hemoglobina \_\_, \_\_ g/dl

Betabloqueantes  droga \_\_\_\_\_ dosis \_\_\_\_\_ mg/d IECA  droga \_\_\_\_\_ dosis \_\_\_\_\_ mg/d

Inhibidores ATII  Droga \_\_\_\_\_ dosis \_\_\_\_\_ mg/d Bloq. cálcicos  Droga \_\_\_\_\_

Antagonista Aldosterona  Droga \_\_\_\_\_ dosis \_\_\_\_\_ mg/d Furosemida  Dosis Furo \_\_\_\_\_ mg

Hidroclorotiazida  Nitritos  AAS  Amiodarona  Digoxina  Anticoagulantes

Ivabradina  Estatinas  Otro hipolipemiante

## IC descompensada

FEVI  $\geq 50\%$  y  $< 50\%$

### Ecocardiograma intrahospitalario

Fecha \_\_/\_\_/\_\_\_\_ Día de internación \_\_

Score de Congestión día del Eco: Disnea \_\_ Ortopnea \_\_ Edema \_\_ Ing yugular \_\_ Rales \_\_

Necesidad aumento diuréticos \_\_ Aumento de peso  $> 1\text{kg}$  \_\_

AI \_\_ mm VIDD \_\_ mm VIDS \_\_ FEVI \_\_ % HVI  AD \_\_ mm

Evaluación cualitativa de función del VI: \_\_\_\_\_ Patrón de llenado VI \_\_\_\_\_

Valvulopatía Severa  En caso afirmativo, cual: EAO:  IAO:  EM:  IM:  IT

PSAP \_\_ mmHg PMAP \_\_ mmHg PDAP \_\_ mmHg E/E' \_\_ FEVD \_\_ % TAPSE \_\_ mm

Septum \_\_ cm PP \_\_ cm Índice Volumen AI \_\_ mm<sup>3</sup>

Onda E \_\_ m/s Onda A \_\_ m/s Relación E/A \_\_

Tiempo de desaceleración de la onda E \_\_, \_\_ mseg Tiempo de relajación isovolumétrica \_\_, \_\_ mseg

Flujo de venas pulmonares: Velocidad pico sistólica \_\_, \_\_ m/s Velocidad pico diastólica \_\_, \_\_ m/s

Onda reversa \_\_, \_\_ m/s Ar-A \_\_, \_\_ m/s

Relación VS/VD \_\_. \_\_

Dilatación de AD  Dilatación de VD  Dilatación de arteria pulmonar

Doppler tisular del anillo mitral: Pico E \_\_, \_\_ cm/seg Pico S \_\_, \_\_ cm/seg Pico A \_\_, \_\_ cm/seg

Insuficiencia mitral:

## IC y Anemia

Diagnóstico \_\_\_\_\_ Lugar de evaluación \_\_\_\_\_

Fecha de diagnóstico \_\_/\_\_/\_\_\_\_

Hematocrito \_\_, \_\_ % Hemoglobina \_\_, \_\_ g/dl VCM \_\_, \_\_ fl HbCM \_\_, \_\_ pg CHbCM \_\_, \_\_ g/dl

Ferritina \_\_\_\_, \_\_ Ferremia \_\_\_\_, \_\_ Transferrina \_\_\_\_, \_\_ Saturación \_\_ % Reticulocitos \_\_, \_\_

LDH \_\_\_\_, \_\_ EPO \_\_\_\_, \_\_

Tipo de anemia \_\_\_\_\_

Tratamiento de la anemia  Inicio \_\_\_\_\_ Tiempo de uso \_\_ \_\_ meses

Hierro1 \_\_\_\_\_ Via \_\_\_\_\_ Dosis \_\_\_\_, \_\_ mg

Hierro2 \_\_\_\_\_ Via \_\_\_\_\_ Dosis \_\_\_\_, \_\_ mg

EPO \_\_\_\_\_ Dosis semanal \_\_\_\_, \_\_ U

Acido Fólico  Vitamina B12  Polivitamínicos  Transfusiones

## IC y Embarazo

### Demografía

Fecha inclusión \_\_/\_\_/\_\_\_\_ Tipo de Registro: \_\_\_\_\_

Primer contacto: \_\_\_\_\_ Médico/Centro que registra el paciente: \_\_\_\_\_

Centro Obstétrico: (50 caracteres)

Investigador Obstétrico: (50 caracteres)

### Diagnóstico de IC

Fecha diagnóstico de IC \_\_/\_\_/\_\_\_\_ Fecha última menstruación \_\_/\_\_/\_\_\_\_

Relación con el parto \_\_\_\_\_ Semana gestación \_\_ Mes postparto \_ Embarazo Múltiple

Evolución de la IC \_\_\_\_\_

Score de Congestión al Diagnóstico: Disnea \_ Ortopnea \_ Edema \_ Ing yugular \_ Rales \_

Necesidad aumento diuréticos \_ Aumento de peso > 1kg \_

### Antecedentes específicos

Antecedentes familiares de IC/Miocardopatía periparto  Relación (20 caracteres)

Cardiopatía congénita  CIA  CIV  Ductus  Otra  Describir: (20 caracteres)

Eisenmenger  Corrección quirúrgica  Shunt residual  HTP post-cirugía

Colagenopatía  Describir (20 caracteres) Otra enfermedad sistémica  Describir (20 caracteres)

Cardiopatía Izquierda  Tipo de disfunción: Sistólica  Diastólica  Cardiopatía valvular

ICC previa  Tiempo de evolución \_\_\_ meses CF \_ Internación previa

Angina crónica  Infarto  Revascularización  Cirugía valvular  Fibrilación auricular

Describir cardiopatía (20 caracteres)

TVP  Síndrome antifosfolipídico  Anticuerpo lúpico  Abortos  Anticonceptivos

Nº Embarazos previos \_\_ Nº Partos previos \_\_ Nº Cesáreas previas \_\_

### Evolución del Embarazo

Fecha de finalización \_\_/\_\_/\_\_\_\_ Modo de finalización \_\_\_\_\_ Razón \_\_\_\_\_

Recién nacido \_\_\_\_\_ Semana gestación \_\_ Peso del RN \_\_\_\_\_

Complicaciones en el embarazo  HTA Gestacional  Preeclampsia  Eclampsia  EAP  Disección aórtica  Infarto de miocardio  Desprendimiento de placenta  RCIU

Diagnóstico de miocardopatía periparto

### Tratamiento durante el embarazo

Betabloqueantes  droga \_\_\_\_\_ dosis \_\_\_\_,\_\_ mg/d IECA  droga \_\_\_\_\_ dosis \_\_\_\_,\_\_ mg/d

Inhibidores ATII  Droga \_\_\_\_\_ dosis \_\_\_\_,\_\_ mg/d Bloq. cálcicos  Droga \_\_\_\_\_

Antagonista Aldosterona  Droga \_\_\_\_\_ dosis \_\_\_\_,\_\_ mg/d Furosemida  Dosis Furo \_\_\_ mg

Hidroclorotiazida  Nitritos  AAS  Amiodarona  Digoxina  Anticoagulantes

Ivabradina  Estatinas  Otro hipolipemiante

Labetalol  Metil Dopa  Clonidina  Sulfato de Mg

### Tratamiento actual

Betabloqueantes  droga \_\_\_\_\_ dosis \_\_\_\_,\_\_ mg/d IECA  droga \_\_\_\_\_ dosis \_\_\_\_,\_\_ mg/d

Inhibidores ATII  Droga \_\_\_\_\_ dosis \_\_\_\_,\_\_ mg/d Bloq. cálcicos  Droga \_\_\_\_\_

Antagonista Aldosterona  Droga \_\_\_\_\_ dosis \_\_\_\_,\_\_ mg/d Furosemida  Dosis Furo \_\_\_ mg

Hidroclorotiazida  Nitritos  AAS  Amiodarona  Digoxina  Anticoagulantes

Ivabradina  Estatinas  Otro hipolipemiante

Requirio asistencia ventricular  Trasplante cardíaco



**Control Post-embarazo**

Fecha \_/ \_/ \_

Internación  Fecha \_/ \_/ \_ Causa \_\_\_\_\_ Muerte:  Fecha \_/ \_/ \_ Causa: \_\_\_\_\_

Score de Congestión postembarazo: Disnea \_ Ortopnea \_ Edema \_ Ing yugular \_ Rales \_

Necesidad aumento diuréticos \_ Aumento de peso > 1kg \_

Betabloqueantes  droga \_\_\_\_\_ dosis \_ \_ \_ , \_ \_ \_ mg/d IECA  droga \_\_\_\_\_ dosis \_ \_ \_ , \_ \_ \_ mg/d

Inhibidores ATII  Droga \_\_\_\_\_ dosis \_ \_ \_ , \_ \_ \_ mg/d Bloq. cálcicos  Droga \_\_\_\_\_

Antagonista Aldosterona  Droga \_\_\_\_\_ dosis \_ \_ \_ , \_ \_ \_ mg/d Furosemida  Dosis Furo \_ \_ \_ mg

Hidroclorotiazida  Nitritos  AAS  Amiodarona  Digoxina  Anticoagulantes

Ivabradina  Estatinas  Otro hipolipemiente

Recomendaciones para embarazo posterior  Para lactancia

[1-224]

[225-320]

## BIBLIOGRAFIA

1. Flammang, D., P. Sebastien, and Y. Bouvrain, [*Hemodynamic study of dopamine used in chronic heart failures and in cardiogenic shock as a complication of acute myocardial infarct*]. *Ann Anesthesiol Fr*, 1975. **16**(9): p. 669-72.
2. Pugliese, C., I. Lessa, and A. Santos Filho, [*Survival of decompensated chronic Chagas' myocardopathy*]. *Rev Inst Med Trop Sao Paulo*, 1976. **18**(3): p. 191-201.
3. de Freitas, L.A., N.R. de Freitas, and Z.A. Andrade, [*Hyperbilirubinemia in patients with decompensated chronic Chagas cardiomyopathy*]. *Mem Inst Oswaldo Cruz*, 1983. **78**(2): p. 215-22.
4. Rocha, A., et al., [*Chronic Chagas' cardiopathy causing congestive heart failure in childhood: a clinical and histopathological study of a case with emphasis on the lesions of the intracardiac conduction and autonomic nervous systems*]. *Rev Soc Bras Med Trop*, 1993. **26**(4): p. 243-9.
5. Ander, D.S., et al., *Undetected cardiogenic shock in patients with congestive heart failure presenting to the emergency department*. *Am J Cardiol*, 1998. **82**(7): p. 888-91.
6. Delle Karth, G., et al., *Hemodynamic effects of a continuous infusion of levosimendan in critically ill patients with cardiogenic shock requiring catecholamines*. *Acta Anaesthesiol Scand*, 2003. **47**(10): p. 1251-6.
7. Boerrigter, G. and J.C. Burnett, Jr., *Cardiorenal syndrome in decompensated heart failure: prognostic and therapeutic implications*. *Curr Heart Fail Rep*, 2004. **1**(3): p. 113-20.
8. Heywood, J.T., *The cardiorenal syndrome: lessons from the ADHERE database and treatment options*. *Heart Fail Rev*, 2004. **9**(3): p. 195-201.
9. Burkhoff, D., et al., *A randomized multicenter clinical study to evaluate the safety and efficacy of the TandemHeart percutaneous ventricular assist device versus conventional therapy with intraaortic balloon pumping for treatment of cardiogenic shock*. *Am Heart J*, 2006. **152**(3): p. 469 e1-8.
10. Francis, G., *Acute decompensated heart failure: the cardiorenal syndrome*. *Cleve Clin J Med*, 2006. **73 Suppl 2**: p. S8-13; discussion S30-3.
11. Owan, T.E., et al., *Trends in prevalence and outcome of heart failure with preserved ejection fraction*. *N Engl J Med*, 2006. **355**(3): p. 251-9.
12. Danciu, S.C., et al., *Comparison of six-month outcomes and hospitalization rates in heart failure patients with and without preserved left ventricular ejection fraction and with and without intraventricular conduction defect*. *Am J Cardiol*, 2006. **97**(2): p. 256-9.
13. Tilling, L. and J. Colin Forfar, *Cinacalcet-associated cardiogenic shock in a patient with cardiomyopathy*. *Clin Ther*, 2007. **29**(2): p. 352-6.
14. Grancelli, H.O., [*Disease management programs in heart failure. Findings of the DIAL study*]. *Rev Esp Cardiol*, 2007. **60 Suppl 3**: p. 15-22.
15. Moreira, L.F., et al., *Left ventricular circulatory support as bridge to heart transplantation in Chagas' disease cardiomyopathy*. *Artif Organs*, 2007. **31**(4): p. 253-8.
16. Kukla, P., et al., [*Myopericarditis complicated with cardiogenic shock mimicking acute coronary syndrome with ST elevation in a patient with hyperthyroidism and diabetes mellitus*]. *Kardiol Pol*, 2008. **66**(9): p. 982-6; discussion 986.
17. Dohadwala, M.M. and M.M. Givertz, *Role of adenosine antagonism in the cardiorenal syndrome*. *Cardiovasc Ther*, 2008. **26**(4): p. 276-86.
18. Ronco, C., et al., *Cardiorenal syndrome*. *J Am Coll Cardiol*, 2008. **52**(19): p. 1527-39.
19. Liu, P.P., *Cardiorenal syndrome in heart failure: a cardiologist's perspective*. *Can J Cardiol*, 2008. **24 Suppl B**: p. 25B-9B.
20. Price, J.F., et al., *Worsening renal function in children hospitalized with decompensated heart failure: evidence for a pediatric cardiorenal syndrome?* *Pediatr Crit Care Med*, 2008. **9**(3): p. 279-84.
21. Liang, K.V., et al., *Acute decompensated heart failure and the cardiorenal syndrome*. *Crit Care Med*, 2008. **36**(1 Suppl): p. S75-88.
22. Paul, B., et al., *Diagnostic and prognostic significance of plasma N-terminal-pro-brain natriuretic peptide in decompensated heart failure with preserved ejection fraction*. *Heart Lung Circ*, 2008. **17**(6): p. 497-501.

23. Fonarow, G.C., et al., *Influence of beta-blocker continuation or withdrawal on outcomes in patients hospitalized with heart failure: findings from the OPTIMIZE-HF program*. J Am Coll Cardiol, 2008. **52**(3): p. 190-9.
24. Young, J.B., et al., *Relation of low hemoglobin and anemia to morbidity and mortality in patients hospitalized with heart failure (insight from the OPTIMIZE-HF registry)*. Am J Cardiol, 2008. **101**(2): p. 223-30.
25. Forfia, P.R., et al., *Hyponatremia predicts right heart failure and poor survival in pulmonary arterial hypertension*. Am J Respir Crit Care Med, 2008. **177**(12): p. 1364-9.
26. Tsagalou, E.P., et al., *Hemodynamic effects of levosimendan in acute myocardial infarction complicated by cardiogenic shock and high systemic vascular resistance*. Acute Card Care, 2009. **11**(2): p. 99-106.
27. Sarraf, M., A. Masoumi, and R.W. Schrier, *Cardiorenal syndrome in acute decompensated heart failure*. Clin J Am Soc Nephrol, 2009. **4**(12): p. 2013-26.
28. Shah, R.V. and M.M. Givertz, *Managing acute renal failure in patients with acute decompensated heart failure: the cardiorenal syndrome*. Curr Heart Fail Rep, 2009. **6**(3): p. 176-81.
29. Ronco, F. and C. Ronco, *[Cardiorenal syndrome, current understanding]*. Recenti Prog Med, 2009. **100**(4): p. 202-13.
30. Ronco, C., et al., *The cardiorenal syndrome*. Blood Purif, 2009. **27**(1): p. 114-26.
31. Miller, A.B. and I.L. Pina, *Understanding heart failure with preserved ejection fraction: clinical importance and future outlook*. Congest Heart Fail, 2009. **15**(4): p. 186-92.
32. de March Ronsoni, R., et al., *The use of Levosimendan for cardiomyopathy due to acute Chagas' disease*. Int J Cardiol, 2009. **136**(2): p. 233-5.
33. Buerke, M., et al., *[Therapeutic strategies in acute decompensated heart failure and cardiogenic shock]*. Internist (Berl), 2010. **51**(8): p. 963-74.
34. Diller, G.P., et al., *Predictors of morbidity and mortality in contemporary Fontan patients: results from a multicenter study including cardiopulmonary exercise testing in 321 patients*. Eur Heart J, 2010. **31**(24): p. 3073-83.
35. Koniari, K., et al., *Therapeutic options for the management of the cardiorenal syndrome*. Int J Nephrol, 2010. **2011**: p. 194910.
36. Shrestha, K. and W.H. Tang, *Cardiorenal syndrome: diagnosis, treatment, and clinical outcomes*. Curr Heart Fail Rep, 2010. **7**(4): p. 167-74.
37. Tang, W.H. and W. Mullens, *Cardiorenal syndrome in decompensated heart failure*. Heart, 2010. **96**(4): p. 255-60.
38. Maurer, M., et al., *Plasma homocysteine and cardiovascular risk in heart failure with and without cardiorenal syndrome*. Int J Cardiol, 2010. **141**(1): p. 32-8.
39. Goldraich, L., et al., *Clinical predictors of preserved left ventricular ejection fraction in decompensated heart failure*. Arq Bras Cardiol, 2010. **94**(3): p. 364-71, 385-93.
40. Farasat, S.M., et al., *Effect of Beta-blocker therapy on rehospitalization rates in women versus men with heart failure and preserved ejection fraction*. Am J Cardiol, 2010. **105**(2): p. 229-34.
41. Sato, N., et al., *Acute decompensated heart failure syndromes (ATTEND) registry. A prospective observational multicenter cohort study: rationale, design, and preliminary data*. Am Heart J, 2010. **159**(6): p. 949-955 e1.
42. Kociol, R.D., et al., *Generalizability and longitudinal outcomes of a national heart failure clinical registry: Comparison of Acute Decompensated Heart Failure National Registry (ADHERE) and non-ADHERE Medicare beneficiaries*. Am Heart J, 2010. **160**(5): p. 885-92.
43. Cardoso, J., et al., *[Chagas cardiomyopathy: prognosis in clinical and hemodynamic profile C]*. Arq Bras Cardiol, 2010. **95**(4): p. 518-23.
44. Dandamudi, S. and H.H. Chen, *Evolving treatment strategies for management of cardiorenal syndrome*. Curr Treat Options Cardiovasc Med, 2011. **13**(6): p. 556-69.
45. Viswanathan, G. and S. Gilbert, *The cardiorenal syndrome: making the connection*. Int J Nephrol, 2011. **2011**: p. 283137.
46. West, R., et al., *Characterization of heart failure patients with preserved ejection fraction: a comparison between ADHERE-US registry and ADHERE-International registry*. Eur J Heart Fail, 2011. **13**(9): p. 945-52.
47. Marechaux, S., et al., *Prognostic importance of comorbidities in heart failure with preserved left ventricular ejection fraction*. Heart Vessels, 2011. **26**(3): p. 313-20.

48. Melo, E.F., R.M. Melo, and V.D. Aiello, *Case 6 / 2011: decompensated heart failure in man of 65 years of age, suffering from cardiomyopathy of Chagas disease and coronary artery disease*. *Arq Bras Cardiol*, 2011. **97**(6): p. e121-7.
49. McClanahan, A. and M. Guglin, *Right ventricular dysfunction compromises accuracy of echocardiographic diagnosis of pulmonary hypertension in heart failure*. *J Card Fail*, 2011. **17**(12): p. 1023-7.
50. Aronson, D., et al., *Relationship between reactive pulmonary hypertension and mortality in patients with acute decompensated heart failure*. *Circ Heart Fail*, 2011. **4**(5): p. 644-50.
51. Trullas, J.C., et al., *[Paradox of obesity in heart failure: results from the Spanish RICA Registry]*. *Med Clin (Barc)*, 2011. **137**(15): p. 671-7.
52. Spinar, J., et al., *Baseline characteristics and hospital mortality in the Acute Heart Failure Database (AHEAD) Main registry*. *Crit Care*, 2011. **15**(6): p. R291.
53. Mebazaa, A., et al., *Short-term survival by treatment among patients hospitalized with acute heart failure: the global ALARM-HF registry using propensity scoring methods*. *Intensive Care Med*, 2011. **37**(2): p. 290-301.
54. Kociol, R.D., et al., *Pharmacologic prophylaxis for venous thromboembolism and 30-day outcomes among older patients hospitalized with heart failure: an analysis from the ADHERE national registry linked to Medicare claims*. *Clin Cardiol*, 2011. **34**(11): p. 682-8.
55. Chioncel, O., et al., *The Romanian Acute Heart Failure Syndromes (RO-AHFS) registry*. *Am Heart J*, 2011. **162**(1): p. 142-53 e1.
56. Aronson, D., *Cardiorenal syndrome in acute decompensated heart failure*. *Expert Rev Cardiovasc Ther*, 2012. **10**(2): p. 177-89.
57. Wynne, J., S.Y. Narveson, and L. Littmann, *Cardiorenal syndrome*. *Heart Lung*, 2012. **41**(2): p. 157-60.
58. Kelesidis, I., et al., *The effect of nesiritide on renal function and other clinical parameters in patients with decompensated heart failure and preserved ejection fraction*. *Congest Heart Fail*, 2012. **18**(3): p. 158-64.
59. Kaneko, H., et al., *Role of cardiopulmonary dysfunction and left atrial remodeling in development of acute decompensated heart failure in chronic heart failure with preserved left ventricular ejection fraction*. *J Cardiol*, 2012. **59**(3): p. 359-65.
60. Hsich, E.M., et al., *Sex differences in in-hospital mortality in acute decompensated heart failure with reduced and preserved ejection fraction*. *Am Heart J*, 2012. **163**(3): p. 430-7, 437 e1-3.
61. Shao, Z., et al., *Pulmonary hypertension associated with advanced systolic heart failure: dysregulated arginine metabolism and importance of compensatory dimethylarginine dimethylaminohydrolase-1*. *J Am Coll Cardiol*, 2012. **59**(13): p. 1150-8.
62. Malek, F., et al., *Uric acid, allopurinol therapy, and mortality in patients with acute heart failure--results of the Acute HEart FAilure Database registry*. *J Crit Care*, 2012. **27**(6): p. 737 e11-24.
63. Kociol, R.D., et al., *B-type natriuretic peptide level and postdischarge thrombotic events in older patients hospitalized with heart failure: insights from the Acute Decompensated Heart Failure National Registry*. *Am Heart J*, 2012. **163**(6): p. 994-1001.
64. Ezekowitz, J.A., et al., *Acute heart failure: perspectives from a randomized trial and a simultaneous registry*. *Circ Heart Fail*, 2012. **5**(6): p. 735-41.
65. Morita, Y., et al., *Use of carperitide infusion for acutely decompensated heart failure*. *Crit Care*, 2012. **16**(1): p. 406.
66. *Furosemide in acute decompensated heart failure*. *Prescrire Int*, 2012. **21**(133): p. 303.
67. Ahmed, M. and J. Hill, *A rational approach to assess volume status in patients with decompensated heart failure*. *Curr Heart Fail Rep*, 2012. **9**(2): p. 139-47.
68. Aispuru, G.R., et al., *Thrombotic biomarkers and left ventricle characteristics as short-term predictors of thrombotic events in patients hospitalized for acute decompensated heart failure*. *Eur J Intern Med*, 2012. **23**(6): p. 545-51.
69. Akturk, E., et al., *[Assessment of left ventricular volume and functions by real-time three-dimensional echocardiography in patients with compensated and decompensated heart failure]*. *Turk Kardiyol Dern Ars*, 2012. **40**(5): p. 419-26.
70. Andersen, N.M., et al., *Recovery from decompensated heart failure is associated with a distinct, phase-dependent gene expression profile*. *J Surg Res*, 2012. **178**(1): p. 72-80.
71. Ang, S.H. and P. Andrus, *Lung ultrasound in the management of acute decompensated heart failure*. *Curr Cardiol Rev*, 2012. **8**(2): p. 123-36.

72. Arnold, J.M. and L. Porepa, *Acute decompensated heart failure: the quest to live longer and feel better: can we have it all?* J Am Coll Cardiol, 2012. **59**(16): p. 1449-51.
73. Atherton, J.J., et al., *Patient characteristics from a regional multicenter database of acute decompensated heart failure in Asia Pacific (ADHERE International-Asia Pacific)*. J Card Fail, 2012. **18**(1): p. 82-8.
74. Badawy, S.S. and A. Fahmy, *Efficacy and cardiovascular tolerability of continuous veno-venous hemodiafiltration in acute decompensated heart failure: a randomized comparative study*. J Crit Care, 2012. **27**(1): p. 106 e7-13.
75. Barros, L.C., et al., *[Acute kidney injury in hospitalized patients with decompensated heart failure]*. J Bras Nefrol, 2012. **34**(2): p. 122-9.
76. Bart, B.A., et al., *Ultrafiltration in decompensated heart failure with cardiorenal syndrome*. N Engl J Med, 2012. **367**(24): p. 2296-304.
77. Bart, B.A., et al., *Cardiorenal rescue study in acute decompensated heart failure: rationale and design of CARRESS-HF, for the Heart Failure Clinical Research Network*. J Card Fail, 2012. **18**(3): p. 176-82.
78. Bernardo, W.M. and F.T. Moreira, *Does nesiritide reduce mortality and readmission in decompensated heart failure?* Rev Assoc Med Bras, 2012. **58**(2): p. 133-4.
79. Bernardo, W.M. and F.T. Moreira, *[Does nesiritide reduce dyspnea in decompensated heart failure?]*. Rev Assoc Med Bras, 2012. **58**(1): p. 11-3.
80. Bishu, K., et al., *Biomarkers in acutely decompensated heart failure with preserved or reduced ejection fraction*. Am Heart J, 2012. **164**(5): p. 763-770 e3.
81. Brancalho, E.O., et al., *Haemodynamic effects of aliskiren in decompensated severe heart failure*. J Renin Angiotensin Aldosterone Syst, 2012. **13**(1): p. 128-32.
82. Brown, J.R. and S.S. Gottlieb, *Acute decompensated heart failure*. Cardiol Clin, 2012. **30**(4): p. 665-71.
83. Campbell, P.T. and J. Ryan, *Diuretic dosing in acute decompensated heart failure: lessons from DOSE*. Curr Heart Fail Rep, 2012. **9**(3): p. 260-5.
84. Cetin, M., et al., *The predictive value of QRS duration in response to levosimendan therapy in patients with decompensated heart failure*. Acta Cardiol, 2012. **67**(3): p. 317-23.
85. Chen, C.Y., et al., *Serum blood urea nitrogen and plasma brain natriuretic Peptide and low diastolic blood pressure predict cardiovascular morbidity and mortality following discharge in acute decompensated heart failure patients*. Circ J, 2012. **76**(10): p. 2372-9.
86. Correia, L.C., et al., *Prevalence and predictors of pulmonary embolism in patients with acutely decompensated heart failure*. Arq Bras Cardiol, 2012. **98**(2): p. 120-5.
87. Dandamudi, S. and H.H. Chen, *The ASCEND-HF trial: an acute study of clinical effectiveness of nesiritide and decompensated heart failure*. Expert Rev Cardiovasc Ther, 2012. **10**(5): p. 557-63.
88. de Araujo, B.S., et al., *Trepopnea may explain right-sided pleural effusion in patients with decompensated heart failure*. Am J Emerg Med, 2012. **30**(6): p. 925-931 e2.
89. Dev, S., et al., *Reduction in body weight but worsening renal function with late ultrafiltration for treatment of acute decompensated heart failure*. Cardiology, 2012. **123**(3): p. 145-53.
90. Dominguez-Rodriguez, A., et al., *Usefulness of serum neopterin levels in acute decompensated heart failure to predict renal dysfunction*. Biomarkers, 2012. **17**(2): p. 134-9.
91. Dupont, M., et al., *Lack of significant renal tubular injury despite acute kidney injury in acute decompensated heart failure*. Eur J Heart Fail, 2012. **14**(6): p. 597-604.
92. Dusemund, F., et al., *Multidisciplinary Assessment to Personalize Length of Stay in Acute Decompensated Heart Failure (OPTIMA II ADHF)*. J Clin Med Res, 2012. **4**(6): p. 402-9.
93. Ezekowitz, J.A., et al., *Assessment of dyspnea in acute decompensated heart failure: insights from ASCEND-HF (Acute Study of Clinical Effectiveness of Nesiritide in Decompensated Heart Failure) on the contributions of peak expiratory flow*. J Am Coll Cardiol, 2012. **59**(16): p. 1441-8.
94. Felker, G.M., et al., *Troponin I in acute decompensated heart failure: insights from the ASCEND-HF study*. Eur J Heart Fail, 2012. **14**(11): p. 1257-64.
95. Felker, G.M. and R.J. Mentz, *Diuretics and ultrafiltration in acute decompensated heart failure*. J Am Coll Cardiol, 2012. **59**(24): p. 2145-53.
96. Gallet, R., et al., *Prognosis value of central venous oxygen saturation in acute decompensated heart failure*. Arch Cardiovasc Dis, 2012. **105**(1): p. 5-12.

97. Gassanov, N., et al., *Natriuretic peptides in therapy for decompensated heart failure*. Eur J Clin Pharmacol, 2012. **68**(3): p. 223-30.
98. Giglioli, C., et al., *Levosimendan produces an additional clinical and hemodynamic benefit in patients with decompensated heart failure successfully submitted to a fluid removal treatment*. Congest Heart Fail, 2012. **18**(1): p. 47-53.
99. Greenberg, B., *Acute decompensated heart failure - treatments and challenges*. Circ J, 2012. **76**(3): p. 532-43.
100. Guglin, M., et al., *Predictors of right ventricular systolic dysfunction in compensated and decompensated heart failure*. Congest Heart Fail, 2012. **18**(5): p. 278-83.
101. Gupta, A., et al., *Obesity and the response to intensified diuretic treatment in decompensated heart failure: a DOSE trial substudy*. J Card Fail, 2012. **18**(11): p. 837-44.
102. Hanna, M.A., et al., *Extracorporeal ultrafiltration vs. conventional diuretic therapy in advanced decompensated heart failure*. Congest Heart Fail, 2012. **18**(1): p. 54-63.
103. Hogan, C.J., et al., *Sublingual tissue perfusion improves during emergency treatment of acute decompensated heart failure*. Am J Emerg Med, 2012. **30**(6): p. 872-80.
104. Hou, Z.Q., et al., *Effect of Levosimendan on Estimated Glomerular Filtration Rate in Hospitalized Patients with Decompensated Heart Failure and Renal Dysfunction*. Cardiovasc Ther, 2012.
105. Hsiao, J., M. Motta, and P. Wyer, *Validating the acute heart failure index for patients presenting to the emergency department with decompensated heart failure*. Emerg Med J, 2012. **29**(12): p. e5.
106. Kazory, A., F.B. Bellamy, and E.A. Ross, *Ultrafiltration for acute decompensated heart failure: financial implications*. Int J Cardiol, 2012. **154**(3): p. 246-9.
107. Kindermann, I., et al., *Cognitive function in patients with decompensated heart failure: the Cognitive Impairment in Heart Failure (CogImpair-HF) study*. Eur J Heart Fail, 2012. **14**(4): p. 404-13.
108. Kobayashi, S., et al., *Low-dose beta-blocker in combination with milrinone safely improves cardiac function and eliminates pulsus alternans in patients with acute decompensated heart failure*. Circ J, 2012. **76**(7): p. 1646-53.
109. Koniari, K., et al., *Treating volume overload in acutely decompensated heart failure: established and novel therapeutic approaches*. Eur Heart J Acute Cardiovasc Care, 2012. **1**(3): p. 256-68.
110. Konishi, M., et al., *Progression of hyponatremia is associated with increased cardiac mortality in patients hospitalized for acute decompensated heart failure*. J Card Fail, 2012. **18**(8): p. 620-5.
111. Kozdag, G., et al., *Aspirin, clopidogrel, and warfarin use and outcomes in a cohort of 580 patients discharged after hospitalization for decompensated heart failure*. Heart Vessels, 2012. **27**(6): p. 568-75.
112. Kransdorf, E.P. and M.M. Kittleson, *Dissecting the "CHF admission": an evidence-based review of the evaluation and management of acute decompensated heart failure for the hospitalist*. J Hosp Med, 2012. **7**(5): p. 439-45.
113. Lima, M.V., et al., *Continuous noninvasive hemodynamic monitoring in decompensated heart failure*. Arq Bras Cardiol, 2012. **99**(3): p. 843-7.
114. Madias, J.E., *Letter by Madias regarding article, "Crescendo in depolarization and repolarization heterogeneity heralds development of ventricular tachycardia in hospitalized patients with decompensated heart failure"*. Circ Arrhythm Electrophysiol, 2012. **5**(3): p. e78; author reply e79.
115. Malfatto, G., et al., *Transthoracic impedance accurately estimates pulmonary wedge pressure in patients with decompensated chronic heart failure*. Congest Heart Fail, 2012. **18**(1): p. 25-31.
116. Malhotra, K., et al., *Decompensated high-output congestive heart failure in a patient with AVF and the role of right heart catheterization: a case study*. Hemodial Int, 2012. **16** Suppl 1: p. S58-61.
117. Manzano-Fernandez, S., et al., *Serial monitoring of soluble interleukin family member ST2 in patients with acutely decompensated heart failure*. Cardiology, 2012. **122**(3): p. 158-66.
118. Marik, P.E. and M. Flemmer, *Narrative review: the management of acute decompensated heart failure*. J Intensive Care Med, 2012. **27**(6): p. 343-53.

119. Marti, C., et al., *Medical therapy for acute decompensated heart failure: what recent clinical trials have taught us about diuretics and vasodilators*. *Curr Heart Fail Rep*, 2012. **9**(1): p. 1-7.
120. Massari, F., et al., *The glucocorticoid in acute decompensated heart failure: Dr Jekyll or Mr Hyde?* *Am J Emerg Med*, 2012. **30**(3): p. 517 e5-10.
121. Mebazaa, A., et al., *Unbiased plasma proteomics for novel diagnostic biomarkers in cardiovascular disease: identification of quiescin Q6 as a candidate biomarker of acutely decompensated heart failure*. *Eur Heart J*, 2012. **33**(18): p. 2317-24.
122. Mulla, C.M. and P.E. Marik, *Pheochromocytoma presenting as acute decompensated heart failure reversed with medical therapy*. *BMJ Case Rep*, 2012. **2012**.
123. Nakamura, M., et al., *Comparison of the incidence of acute decompensated heart failure before and after the major tsunami in Northeast Japan*. *Am J Cardiol*, 2012. **110**(12): p. 1856-60.
124. Nearing, B.D., et al., *Crescendo in depolarization and repolarization heterogeneity heralds development of ventricular tachycardia in hospitalized patients with decompensated heart failure*. *Circ Arrhythm Electrophysiol*, 2012. **5**(1): p. 84-90.
125. Nevzorov, R., et al., *Effect of beta blocker therapy on survival of patients with heart failure and preserved systolic function following hospitalization with acute decompensated heart failure*. *Eur J Intern Med*, 2012. **23**(4): p. 374-8.
126. O'Brien, T.M., et al., *Algorithm-based assessment of target weight removal in acute decompensated heart failure*. *Congest Heart Fail*, 2012. **18**(1): p. 43-6.
127. Oh, J., et al., *Prognostic value of change in red cell distribution width 1 month after discharge in acute decompensated heart failure patients*. *Circ J*, 2012. **76**(1): p. 109-16.
128. Paksoy, F., et al., *[The effect of levosimendan and dobutamine treatment on QT dispersion in patients with decompensated heart failure: a prospective study]*. *Anadolu Kardiyol Derg*, 2012. **12**(1): p. 16-22.
129. Paraskevaïdis, I.A., et al., *Dobutamine-induced changes of left atrial two-dimensional deformation predict clinical and neurohumoral improvement after levosimendan treatment in patients with acutely decompensated chronic heart failure*. *Int J Cardiol*, 2012. **157**(1): p. 31-7.
130. Parrinello, G., et al., *Troponin I release after intravenous treatment with high furosemide doses plus hypertonic saline solution in decompensated heart failure trial (Tra-HSS-Fur)*. *Am Heart J*, 2012. **164**(3): p. 351-7.
131. Patarroyo, M., et al., *Cardiorenal outcomes after slow continuous ultrafiltration therapy in refractory patients with advanced decompensated heart failure*. *J Am Coll Cardiol*, 2012. **60**(19): p. 1906-12.
132. Proietti, R., A. Mafriçi, and D.H. Spodick, *Dynamic variations of P-wave duration in a patient with acute decompensated congestive heart failure*. *Cardiol J*, 2012. **19**(1): p. 95-7.
133. Ramasubbu, K., et al., *Echocardiographic changes during treatment of acute decompensated heart failure: insights from the ESCAPE trial*. *J Card Fail*, 2012. **18**(10): p. 792-8.
134. Ran, H.H., et al., *Imatinib-induced decompensated heart failure in an elderly patient with chronic myeloid leukemia: case report and literature review*. *J Geriatr Cardiol*, 2012. **9**(4): p. 411-4.
135. Ribeiro, W.N., A.T. Yamada, and L.A. Benvenuti, *Case 2 for index purposes: a 50 year old and past heavy drinker man admitted to treat decompensated heart failure*. *Arq Bras Cardiol*, 2012. **98**(6): p. e87-95.
136. Rodriguez-Pascual, C., et al., *Comprehensive geriatric assessment and hospital mortality among older adults with decompensated heart failure*. *Am Heart J*, 2012. **164**(5): p. 756-62.
137. Ronco, C., M. Cicoira, and P.A. McCullough, *Cardiorenal syndrome type 1: pathophysiological crosstalk leading to combined heart and kidney dysfunction in the setting of acutely decompensated heart failure*. *J Am Coll Cardiol*, 2012. **60**(12): p. 1031-42.
138. Saremi, A., D. Gopal, and A.S. Maisel, *Brain natriuretic peptide-guided therapy in the inpatient management of decompensated heart failure*. *Expert Rev Cardiovasc Ther*, 2012. **10**(2): p. 191-203.
139. Schwartzberg, S., et al., *The "obesity paradox": does it persist among Israeli patients with decompensated heart failure? A subanalysis of the Heart Failure Survey in Israel (HFSIS)*. *J Card Fail*, 2012. **18**(1): p. 62-7.

140. Scrutinio, D., et al., *Amino-terminal pro-B-type natriuretic peptide for risk prediction in acute decompensated heart failure*. *Congest Heart Fail*, 2012. **18**(6): p. 308-14.
141. Scrutinio, D., et al., *Inpatient cardiac rehabilitation soon after hospitalization for acute decompensated heart failure: a propensity score study*. *J Cardiopulm Rehabil Prev*, 2012. **32**(2): p. 71-7.
142. Shchekochikhin, D. and J. Lindenfeld, *What have we learned about loop diuretics in acute decompensated heart failure? The DOSE trial*. *Curr Cardiol Rep*, 2012. **14**(3): p. 251-3.
143. Shrestha, K., et al., *Relation of systemic and urinary neutrophil gelatinase-associated lipocalin levels to different aspects of impaired renal function in patients with acute decompensated heart failure*. *Am J Cardiol*, 2012. **110**(9): p. 1329-35.
144. Speranza, L., et al., *BNP and iNOS in decompensated chronic heart failure: a linear correlation*. *Front Biosci (Elite Ed)*, 2012. **4**: p. 1255-62.
145. Stenner, E., et al., *Comparative evaluation of B-type natriuretic peptide and mid-regional pro-A-type natriuretic peptide changes from admission to discharge in prognosis of acute decompensated heart failure patients*. *Clin Lab*, 2012. **58**(5-6): p. 585-9.
146. Summers, R.L. and S. Sterling, *Early emergency management of acute decompensated heart failure*. *Curr Opin Crit Care*, 2012. **18**(4): p. 301-7.
147. Tanindi, A., et al., *Heart rate variability in patients hospitalized for decompensated diastolic heart failure at admission and after clinical stabilization*. *Future Cardiol*, 2012. **8**(3): p. 473-82.
148. Taylor, D.M., et al., *A comparison of precipitants and mortality when acute decompensated heart failure occurs in the community and hospital settings*. *Heart Lung Circ*, 2012. **21**(8): p. 439-43.
149. Whellan, D.J., et al., *Change in intrathoracic impedance measures during acute decompensated heart failure admission: results from the Diagnostic Data for Discharge in Heart Failure Patients (3D-HF) Pilot Study*. *J Card Fail*, 2012. **18**(2): p. 107-12.
150. Zafrir, B. and O. Amir, *Beta blocker therapy, decompensated heart failure, and inotropic interactions: current perspectives*. *Isr Med Assoc J*, 2012. **14**(3): p. 184-9.
151. Zhang, Y.H., et al., *[Hemodynamic and efficacies of domestic levosimendan versus dobutamine in patients with acute decompensated heart failure]*. *Zhonghua Yi Xue Za Zhi*, 2012. **92**(8): p. 555-8.
152. Zhang, Y.H., et al., *[Comparison on efficacy and safety between domestic levosimendan versus dobutamine for patients with acute decompensated heart failure]*. *Zhonghua Xin Xue Guan Bing Za Zhi*, 2012. **40**(2): p. 153-6.
153. Zhou, Q., et al., *Acute and acute-on-chronic kidney injury of patients with decompensated heart failure: impact on outcomes*. *BMC Nephrol*, 2012. **13**: p. 51.
154. Sato, N., et al., *Clinical features and outcome in hospitalized heart failure in Japan (from the ATTEND Registry)*. *Circ J*, 2013. **77**(4): p. 944-51.
155. Sato, N., et al., *Hyponatremia and in-hospital mortality in patients admitted for heart failure (from the ATTEND registry)*. *Am J Cardiol*, 2013. **111**(7): p. 1019-25.
156. Lin, G.M., et al., *B-type natriuretic peptide level and postdischarge thrombotic events in older patients hospitalized with heart failure: insights from the Acute Decompensated Heart Failure National Registry*. *Am Heart J*, 2013. **165**(1): p. e1.
157. Abuhab, A., et al., *Chagas' cardiomyopathy: the economic burden of an expensive and neglected disease*. *Int J Cardiol*, 2013. **168**(3): p. 2375-80.
158. Aliti, G.B., et al., *Aggressive fluid and sodium restriction in acute decompensated heart failure: a randomized clinical trial*. *JAMA Intern Med*, 2013. **173**(12): p. 1058-64.
159. Aronson, D., et al., *Fluid loss, venous congestion, and worsening renal function in acute decompensated heart failure*. *Eur J Heart Fail*, 2013. **15**(6): p. 637-43.
160. Aronson, D., et al., *Pulmonary hypertension, right ventricular function, and clinical outcome in acute decompensated heart failure*. *J Card Fail*, 2013. **19**(10): p. 665-71.
161. Austin, J., et al., *Assessing parenteral diuretic treatment of decompensated heart failure in the community*. *Br J Community Nurs*, 2013. **18**(11): p. 528, 530-4.
162. Barsuk, J.H., et al., *A diuretic protocol increases volume removal and reduces readmissions among hospitalized patients with acute decompensated heart failure*. *Congest Heart Fail*, 2013. **19**(2): p. 53-60.
163. Bleske, B.E., et al., *The effect of continuous infusion loop diuretics in patients with acute decompensated heart failure with hypoalbuminemia*. *J Cardiovasc Pharmacol Ther*, 2013. **18**(4): p. 334-7.



164. Brisco, M.A., et al., *Blood urea nitrogen/creatinine ratio identifies a high-risk but potentially reversible form of renal dysfunction in patients with decompensated heart failure*. *Circ Heart Fail*, 2013. **6**(2): p. 233-9.
165. Brisco, M.A., et al., *Biochemical evidence of mild hepatic dysfunction identifies decompensated heart failure patients with reversible renal dysfunction*. *J Card Fail*, 2013. **19**(11): p. 739-45.
166. Burchell, A.E., et al., *Chemohypersensitivity and autonomic modulation of venous capacitance in the pathophysiology of acute decompensated heart failure*. *Curr Heart Fail Rep*, 2013. **10**(2): p. 139-46.
167. Cakar, M., et al., *The therapy of acute decompensated heart failure should be performed like a work of art*. *Cardiology*, 2013. **124**(1): p. 62.
168. Campbell, P., *Dynamic pulmonary hypertension in decompensated heart failure with preserved ejection fraction: is functional mitral regurgitation the driver?* *J Card Fail*, 2013. **19**(11): p. 753-5.
169. Cardoso, J.N., et al., *Diuretic titration based on weight change in decompensated congestive heart failure: a randomized trial*. *Int J Cardiol*, 2013. **168**(3): p. 3020-1.
170. Carlson, M.D. and P.M. Eckman, *Review of vasodilators in acute decompensated heart failure: the old and the new*. *J Card Fail*, 2013. **19**(7): p. 478-93.
171. Chan, W.Y., et al., *Urocortin-2 Infusion in Acute Decompensated Heart Failure: Findings From the UNICORN Study (Urocortin-2 in the Treatment of Acute Heart Failure as an Adjunct Over Conventional Therapy)*. *JACC Heart Fail*, 2013. **1**(5): p. 433-41.
172. Cheitlin, M.D., *Counterintuitive evidence concerning salt and water restriction in acute decompensated heart failure patients: comment on "Aggressive fluid and sodium restriction in acute decompensated heart failure"*. *JAMA Intern Med*, 2013. **173**(12): p. 1064-6.
173. Chintanaboina, J., et al., *Serum bilirubin as a prognostic marker in patients with acute decompensated heart failure*. *Korean J Intern Med*, 2013. **28**(3): p. 300-5.
174. Cicci, J.D., et al., *Acute Decompensated Heart Failure: Evolving Literature and Implications for Future Practice*. *Pharmacotherapy*, 2013.
175. Clarke, M.M., et al., *Baseline albumin is associated with worsening renal function in patients with acute decompensated heart failure receiving continuous infusion loop diuretics*. *Pharmacotherapy*, 2013. **33**(6): p. 583-8.
176. Darling, C., et al., *Delayed hospital presentation in acute decompensated heart failure: clinical and patient reported factors*. *Heart Lung*, 2013. **42**(4): p. 281-6.
177. Dedeia, L., *Should beta-blockers be used in patients with acute decompensated heart failure?* *JAAPA*, 2013. **26**(8): p. 15-6.
178. Demirkol, S., et al., *Response to 'Improvement of arterial stiffness in the transition from acute decompensated heart failure to chronic compensated heart failure'*. *Clin Cardiol*, 2013. **36**(12): p. E49.
179. Desai, A.S., *Hemoglobin concentration in acute decompensated heart failure: a marker of volume status?* *J Am Coll Cardiol*, 2013. **61**(19): p. 1982-4.
180. Dharmarajan, K., et al., *Acute decompensated heart failure is routinely treated as a cardiopulmonary syndrome*. *PLoS One*, 2013. **8**(10): p. e78222.
181. Dohi, K., K. Watanabe, and M. Ito, *Urine osmolality-guided tolvaptan therapy in decompensated heart failure*. *Circ J*, 2013. **77**(2): p. 313-4.
182. Dunlap, M.E. and P.A. Sobotka, *Fluid re-distribution rather than accumulation causes most cases of decompensated heart failure*. *J Am Coll Cardiol*, 2013. **62**(2): p. 165-6.
183. Dupont, M., et al., *Determinants of dynamic changes in serum creatinine in acute decompensated heart failure: the importance of blood pressure reduction during treatment*. *Eur J Heart Fail*, 2013. **15**(4): p. 433-40.
184. Ennezat, P.V., et al., *Dynamic nature of pulmonary artery systolic pressure in decompensated heart failure with preserved ejection fraction: role of functional mitral regurgitation*. *J Card Fail*, 2013. **19**(11): p. 746-52.
185. Erbano, B.O., et al., *Lipid profile and mortality after discharge of patients admitted with decompensated heart failure*. *Int J Cardiol*, 2013. **167**(3): p. 1066-8.
186. Erdmann, E., et al., *Cinaciguat, a soluble guanylate cyclase activator, unloads the heart but also causes hypotension in acute decompensated heart failure*. *Eur Heart J*, 2013. **34**(1): p. 57-67.
187. Ezekowitz, J.A., *Novel pharmacologic therapies in development for acute decompensated heart failure*. *Curr Cardiol Rep*, 2013. **15**(2): p. 329.

188. Freda, B.J., J. Mallidi, and G.L. Braden, *Diuretics or ultrafiltration for acute decompensated heart failure and cardiorenal syndrome?* Am J Kidney Dis, 2013. **62**(3): p. 453-6.
189. Givertz, M.M., et al., *Acute decompensated heart failure: update on new and emerging evidence and directions for future research.* J Card Fail, 2013. **19**(6): p. 371-89.
190. Gottlieb, S.S., et al., *Effects of nesiritide and predictors of urine output in acute decompensated heart failure: results from ASCEND-HF (acute study of clinical effectiveness of nesiritide and decompensated heart failure).* J Am Coll Cardiol, 2013. **62**(13): p. 1177-83.
191. Guazzi, M., et al., *Pathophysiology of cardiorenal syndrome in decompensated heart failure: role of lung-right heart-kidney interaction.* Int J Cardiol, 2013. **169**(6): p. 379-84.
192. Guthrie, R.M., *Review of diuretic and ultrafiltration strategies in patients with acute decompensated heart failure.* Hosp Pract (1995), 2013. **41**(1): p. 129-31.
193. Haase, M., et al., *Pathogenesis of cardiorenal syndrome type 1 in acute decompensated heart failure: workgroup statements from the eleventh consensus conference of the Acute Dialysis Quality Initiative (ADQI).* Contrib Nephrol, 2013. **182**: p. 99-116.
194. Harada, K., *[Acute decompensated heart failure].* Nihon Rinsho, 2013. **71**(6): p. 1035-41.
195. Hauptman, P.J., et al., *Clinical course of patients with hyponatremia and decompensated systolic heart failure and the effect of vasopressin receptor antagonism with tolvaptan.* J Card Fail, 2013. **19**(6): p. 390-7.
196. Hernandez, M.B., et al., *Predictors of 30-day readmission in patients hospitalized with decompensated heart failure.* Clin Cardiol, 2013. **36**(9): p. 542-7.
197. Hong, N., et al., *Prognostic value of new-onset anemia as a marker of hemodilution in patients with acute decompensated heart failure and severe renal dysfunction.* J Cardiol, 2013.
198. Hou, Z.Q., et al., *Effect of levosimendan on estimated glomerular filtration rate in hospitalized patients with decompensated heart failure and renal dysfunction.* Cardiovasc Ther, 2013. **31**(2): p. 108-14.
199. Hou, Z.Q., et al., *Effect of lipo-prostaglandin E1 on cystatin C, beta2-microglobulin, and estimated glomerular filtration rate in patients with decompensated heart failure and renal dysfunction: a single-center, nonrandomized controlled study.* Heart Vessels, 2013. **28**(5): p. 589-95.
200. Howlett, J.G., et al., *Global variation in quality of care among patients hospitalized with acute heart failure in an international trial: findings from the acute study clinical effectiveness of nesiritide in decompensated heart failure trial (ASCEND-HF).* Circ Cardiovasc Qual Outcomes, 2013. **6**(5): p. 534-42.
201. Iadarola, G.M., et al., *Peritoneal ultrafiltration in patients with advanced decompensated heart failure.* J Nephrol, 2013. **26 Suppl 21**: p. 159-76.
202. Imamura, T., et al., *Urine osmolality estimated using urine urea nitrogen, sodium and creatinine can effectively predict response to tolvaptan in decompensated heart failure patients.* Circ J, 2013. **77**(5): p. 1208-13.
203. Imamura, T., et al., *Novel criteria of urine osmolality effectively predict response to tolvaptan in decompensated heart failure patients--association between non-responders and chronic kidney disease.* Circ J, 2013. **77**(2): p. 397-404.
204. Issa, V.S., et al., *Hypertonic saline solution for prevention of renal dysfunction in patients with decompensated heart failure.* Int J Cardiol, 2013. **167**(1): p. 34-40.
205. Jackson, C.E., et al., *Spectral microvolt T-wave alternans testing has no prognostic value in patients recently hospitalized with decompensated heart failure.* Eur J Heart Fail, 2013. **15**(11): p. 1253-61.
206. Jastrzebski, M., et al., *[Pseudo-PJRT in an 8 year-old boy with severe decompensated heart failure and recurrent episodes of ventricular fibrillation].* Kardiol Pol, 2013. **71**(3): p. 310-4.
207. Kamiya, M., et al., *A case of marked diuresis by combined dopamine and atrial natriuretic peptide administration without renal injury in acute decompensated heart failure.* Int Heart J, 2013. **54**(4): p. 243-5.
208. Katekao, W., et al., *Retrospective cohort study of association of NSAIDs exposure and outcome of acute decompensated congestive heart failure.* J Med Assoc Thai, 2013. **96**(4): p. 423-31.
209. Kaya, Z., et al., *Serum ceruloplasmin levels in acute decompensated heart failure.* Clin Ter, 2013. **164**(3): p. e187-91.

210. Kazory, A. and C. Ronco, *Ultrafiltration therapy for acute decompensated heart failure: lessons learned from 2 major trials*. Am Heart J, 2013. **166**(5): p. 799-803.
211. Kim, D.B., et al., *Improvement of arterial stiffness in the transition from acute decompensated heart failure to chronic compensated heart failure*. Clin Cardiol, 2013. **36**(6): p. 358-62.
212. Koyama, S., et al., *Early evolution and correlates of urine albumin excretion in patients presenting with acutely decompensated heart failure*. Circ Heart Fail, 2013. **6**(2): p. 227-32.
213. Lassus, J., et al., *Incremental value of biomarkers to clinical variables for mortality prediction in acutely decompensated heart failure: the Multinational Observational Cohort on Acute Heart Failure (MOCA) study*. Int J Cardiol, 2013. **168**(3): p. 2186-94.
214. Lassus, J.P., et al., *Long-term survival after hospitalization for acute heart failure - differences in prognosis of acutely decompensated chronic and new-onset acute heart failure*. Int J Cardiol, 2013. **168**(1): p. 458-62.
215. Lee, A.P., et al., *Left ventricular systolic dyssynchrony in acute decompensated heart failure*. Int J Cardiol, 2013. **168**(4): p. 4285-6.
216. Lim, J., et al., *Hypereosinophilic syndrome masquerading as a myocardial infarction causing decompensated heart failure*. BMC Cardiovasc Disord, 2013. **13**: p. 75.
217. Llorens, P., et al., *Clinical effects and safety of different strategies for administering intravenous diuretics in acutely decompensated heart failure: a randomised clinical trial*. Emerg Med J, 2013.
218. Loehr, L.R., et al., *Classification of acute decompensated heart failure: an automated algorithm compared with a physician reviewer panel: the Atherosclerosis Risk in Communities study*. Circ Heart Fail, 2013. **6**(4): p. 719-26.
219. Luers, C., et al., *NT-proANP and NT-proBNP as prognostic markers in patients with acute decompensated heart failure of different etiologies*. Clin Biochem, 2013. **46**(12): p. 1013-9.
220. Madias, J.E., *T-wave alternans in patients hospitalized for decompensated heart failure: sobering realities and where we are going next*. Eur J Heart Fail, 2013. **15**(8): p. 945.
221. Makhoul, B.F., et al., *Relation between changes in red cell distribution width and clinical outcomes in acute decompensated heart failure*. Int J Cardiol, 2013. **167**(4): p. 1412-6.
222. Mangini, S., et al., *Decompensated heart failure*. Einstein (Sao Paulo), 2013. **11**(3): p. 383-91.
223. Mantuani, D. and A. Nagdev, *Three-view bedside ultrasound to differentiate acute decompensated heart failure from chronic obstructive pulmonary disease*. Am J Emerg Med, 2013. **31**(4): p. 759 e3-5.
224. Manzano-Fernandez, S., et al., *Comparison of risk prediction with the CKD-EPI and MDRD equations in acute decompensated heart failure*. J Card Fail, 2013. **19**(8): p. 583-91.
225. Matsue, Y., et al., *Tolvaptan reduces the risk of worsening renal function in patients with acute decompensated heart failure in high-risk population*. J Cardiol, 2013. **61**(2): p. 169-74.
226. Moleerergpoom, W., et al., *Predictors of in-hospital mortality in acute decompensated heart failure (Thai ADHERE)*. J Med Assoc Thai, 2013. **96**(2): p. 157-64.
227. Munoz, D. and G.M. Felker, *Approaches to decongestion in patients with acute decompensated heart failure*. Curr Cardiol Rep, 2013. **15**(2): p. 335.
228. Nikolaou, M., et al., *Liver function abnormalities, clinical profile, and outcome in acute decompensated heart failure*. Eur Heart J, 2013. **34**(10): p. 742-9.
229. Ophelie, F., *[Role of the nurse in administering beta blockers to patients with acute decompensated heart failure]*. Rev Infirm, 2013(191): p. 41-4.
230. Ota, K.S., M. Lazkani, and P. Stander, *Reducing hospitalizations for acute decompensated heart failure: the infusion room approach*. J Am Coll Cardiol, 2013. **61**(24): p. 2490-1.
231. Ozcan, S., et al., *The prognostic significance of narrow fragmented QRS on admission electrocardiogram in patients hospitalized for decompensated systolic heart failure*. Clin Cardiol, 2013. **36**(9): p. 560-4.
232. Packer, M., et al., *Effect of levosimendan on the short-term clinical course of patients with acutely decompensated heart failure*. JACC Heart Fail, 2013. **1**(2): p. 103-11.
233. Parissis, J.T., et al., *Prognostic value of high sensitivity troponin T in patients with acutely decompensated heart failure and non-detectable conventional troponin T levels*. Int J Cardiol, 2013. **168**(4): p. 3609-12.
234. Pereira-Barretto, A.C., et al., *Role of BNP levels on the prognosis of decompensated advanced heart failure*. Arq Bras Cardiol, 2013. **100**(3): p. 281-7.

235. Raichlin, E., et al., *Worsening renal function in patients with acute decompensated heart failure treated with ultrafiltration: predictors and outcomes*. J Card Fail, 2013. **19**(12): p. 787-94.
236. Rami, K., *Aggressive salt and water restriction in acutely decompensated heart failure: is it worth its weight in salt?* Expert Rev Cardiovasc Ther, 2013. **11**(9): p. 1125-8.
237. Reed, S.D., et al., *Medical resource use, costs, and quality of life in patients with acute decompensated heart failure: findings from ASCEND-HF*. J Card Fail, 2013. **19**(9): p. 611-20.
238. Regolisti, G. and E. Fiaccadori, *Ultrafiltration in acute decompensated heart failure: friend or foe for the kidney?* J Nephrol, 2013. **26**(3): p. 421-6.
239. Ricci, F., et al., *Predisposing factors for acute kidney injury in Hispanic patients treated with diuretics for decompensated heart failure*. P R Health Sci J, 2013. **32**(2): p. 63-7.
240. Riley, J., *Acute decompensated heart failure: diagnosis and management*. Br J Nurs, 2013. **22**(22): p. 1290-5.
241. Roy, A.K., et al., *A Comparison of Traditional and Novel Definitions (RIFLE, AKIN, and KDIGO) of Acute Kidney Injury for the Prediction of Outcomes in Acute Decompensated Heart Failure*. Cardiorenal Med, 2013. **3**(1): p. 26-37.
242. Samara, M.A., et al., *Single exhaled breath metabolomic analysis identifies unique breathprint in patients with acute decompensated heart failure*. J Am Coll Cardiol, 2013. **61**(13): p. 1463-4.
243. Scrutinio, D., et al., *Clinical utility of N-terminal pro-B-type natriuretic peptide for risk stratification of patients with acute decompensated heart failure. Derivation and validation of the ADHF/NT-proBNP risk score*. Int J Cardiol, 2013. **168**(3): p. 2120-6.
244. Scrutinio, D., et al., *Association between conformity with performance measures and 1-year postdischarge survival in patients with acute decompensated heart failure*. Am J Med Qual, 2013. **28**(2): p. 160-8.
245. Sethares, K.A., et al., *Factors Associated With Delay in Seeking Care for Acute Decompensated Heart Failure*. J Cardiovasc Nurs, 2013.
246. Shah, A.B., et al., *An evaluation of the prevalence and severity of pain and other symptoms in acute decompensated heart failure*. J Palliat Med, 2013. **16**(1): p. 87-90.
247. Shao, Z., et al., *Increasing serum soluble angiotensin-converting enzyme 2 activity after intensive medical therapy is associated with better prognosis in acute decompensated heart failure*. J Card Fail, 2013. **19**(9): p. 605-10.
248. Shirakabe, A., et al., *Prognostic impact of acute kidney injury in patients with acute decompensated heart failure*. Circ J, 2013. **77**(3): p. 687-96.
249. Singh, B., et al., *Anomalous mitral arcade variant with accessory mitral leaflet and chordae presenting for the first time with acute decompensated heart failure in an adult*. Echocardiography, 2013. **30**(7): p. E202-5.
250. Solomonica, A., A.J. Burger, and D. Aronson, *Hemodynamic determinants of dyspnea improvement in acute decompensated heart failure*. Circ Heart Fail, 2013. **6**(1): p. 53-60.
251. Sonaglioni, A., et al., *[Giant left atrium in a patient with decompensated heart failure]*. G Ital Cardiol (Rome), 2013. **14**(4): p. 286-8.
252. Squara, P., et al., *Preload reserve is restored in patients with decompensated chronic heart failure who respond to treatment*. Congest Heart Fail, 2013. **19**(4): p. 207-13.
253. Tasal, A., et al., *Utility of the neutrophil to lymphocyte ratio for predicting in-hospital mortality after levosimendan infusion in patients with acute decompensated heart failure*. J Cardiol, 2013.
254. Teerlink, J.R., et al., *Acute Decompensated Heart Failure Update*. Curr Cardiol Rev, 2013.
255. Testa, G., et al., *Precipitating factors in younger and older adults with decompensated chronic heart failure: are they different?* J Am Geriatr Soc, 2013. **61**(10): p. 1827-8.
256. Testani, J.M., et al., *Timing of hemoconcentration during treatment of acute decompensated heart failure and subsequent survival: importance of sustained decongestion*. J Am Coll Cardiol, 2013. **62**(6): p. 516-24.
257. Ueda, T., et al., *High mean corpuscular volume is a new indicator of prognosis in acute decompensated heart failure*. Circ J, 2013. **77**(11): p. 2766-71.
258. Valdespino-Trejo, A., et al., *Low albumin levels and high impedance ratio as risk factors for worsening kidney function during hospitalization of decompensated heart failure patients*. Exp Clin Cardiol, 2013. **18**(2): p. 113-7.

259. van der Meer, P., et al., *The predictive value of short-term changes in hemoglobin concentration in patients presenting with acute decompensated heart failure*. J Am Coll Cardiol, 2013. **61**(19): p. 1973-81.
260. Verbrugge, F.H., et al., *Novel urinary biomarkers in detecting acute kidney injury, persistent renal impairment, and all-cause mortality following decongestive therapy in acute decompensated heart failure*. J Card Fail, 2013. **19**(9): p. 621-8.
261. Wong, Y.W., et al., *Early intravenous heart failure therapy and outcomes among older patients hospitalized for acute decompensated heart failure: findings from the Acute Decompensated Heart Failure Registry Emergency Module (ADHERE-EM)*. Am Heart J, 2013. **166**(2): p. 349-56.
262. Wu, Y., et al., *Passive leg movement enhances diuresis and decline of plasma NT-proBNP level in patients with decompensated heart failure treated with furosemide*. Int J Cardiol, 2013. **168**(4): p. 4289-90.
263. Yalcinkaya, E., et al., *Response to improvement of arterial stiffness in the transition from acute decompensated heart failure to chronic compensated heart failure*. Clin Cardiol, 2013. **36**(9): p. E25.
264. Yamauchi, H., et al., *Clinical features of patients with decompensated heart failure after the Great East Japan Earthquake*. Am J Cardiol, 2013. **112**(1): p. 94-9.
265. Yildiz, A., et al., *Comprehensive assessment of biomarkers in acutely decompensated heart failure: an in-depth look*. Int J Cardiol, 2013. **168**(4): p. 4304.
266. Zatarain-Nicolas, E., et al., *Subcutaneous Infusion of Furosemide Administered by Elastomeric Pumps for Decompensated Heart Failure Treatment: Initial Experience*. Rev Esp Cardiol, 2013. **66**(12): p. 1002-1004.
267. Zhao, Y.L., et al., *[Ultrafiltration versus intravenous diuretics in decompensated heart failure: a meta-analysis of randomized controlled trials]*. Zhonghua Yi Xue Za Zhi, 2013. **93**(30): p. 2345-50.
268. Alhabib, K.F., et al., *Clinical features, management, and short- and long-term outcomes of patients with acute decompensated heart failure: phase I results of the HEARTS database*. Eur J Heart Fail, 2014.
269. Anderson, K.L., et al., *Point-of-care ultrasound diagnoses acute decompensated heart failure in the ED regardless of examination findings*. Am J Emerg Med, 2014. **32**(4): p. 385-8.
270. Aronson, D., R. Dragu, and Z.S. Azzam, *Reply to Acute decompensated heart failure and pulmonary hypertension*. J Card Fail, 2014. **20**(1): p. 63-4.
271. Blair, T.L., *Device diagnostics and early identification of acute decompensated heart failure: a systematic review*. J Cardiovasc Nurs, 2014. **29**(1): p. 68-81.
272. Chamsi-Pasha, M.A., et al., *Utilization pattern of mineralocorticoid receptor antagonists in contemporary patients hospitalized with acute decompensated heart failure: a single-center experience*. J Card Fail, 2014. **20**(4): p. 229-35.
273. Chang, P.P., et al., *Incidence and survival of hospitalized acute decompensated heart failure in four US communities (from the Atherosclerosis Risk in Communities Study)*. Am J Cardiol, 2014. **113**(3): p. 504-10.
274. Cleland, J.G., et al., *Predictors of postdischarge outcomes from information acquired shortly after admission for acute heart failure: a report from the Placebo-Controlled Randomized Study of the Selective A1 Adenosine Receptor Antagonist Rolofylline for Patients Hospitalized With Acute Decompensated Heart Failure and Volume Overload to Assess Treatment Effect on Congestion and Renal Function (PROTECT) Study*. Circ Heart Fail, 2014. **7**(1): p. 76-87.
275. Danilowicz-Szymanowicz, L., G. Molon, and G. Raczak, *Is microvolt T-wave alternans testing suitable for patients recently hospitalized due to decompensated heart failure?* Eur J Heart Fail, 2014. **16**(1): p. 112.
276. De Vecchis, R., C. Esposito, and C. Ariano, *Efficacy and safety assessment of isolated ultrafiltration compared to intravenous diuretics for acutely decompensated heart failure: a systematic review with meta-analysis*. Minerva Cardioangiol, 2014. **62**(2): p. 131-46.
277. De Vecchis, R., et al., *Hypertonic saline plus i.v. furosemide improve renal safety profile and clinical outcomes in acute decompensated heart failure : A meta-analysis of the literature*. Herz, 2014.
278. Dohi, K. and M. Ito, *Immediate and short-term use of tolvaptan for acute decompensated heart failure*. Circ J, 2014. **78**(4): p. 829-31.

279. Durmus, E., B. Hunuk, and O. Erdogan, *Increase in QRS amplitudes is better than N-terminal pro-B-type natriuretic peptide to predict clinical improvement in decompensated heart failure*. J Electrocardiol, 2014.
280. Eng, M. and S. Bansal, *Use of natriuretic-doses of spironolactone for treatment of loop diuretic resistant acute decompensated heart failure*. Int J Cardiol, 2014. **170**(3): p. e68-9.
281. Fedele, F., et al., *Levosimendan improves renal function in acute decompensated heart failure: possible underlying mechanisms*. Eur J Heart Fail, 2014. **16**(3): p. 281-8.
282. Ferreira, J.P., et al., *Mineralocorticoid receptor antagonism in acutely decompensated chronic heart failure*. Eur J Intern Med, 2014. **25**(1): p. 67-72.
283. Ferreira, J.P., et al., *The role of albuminuria as a non-invasive marker for congestive acutely decompensated chronic heart failure and the spironolactone effect in elderly Portuguese: a non-randomized trial*. Nephrology (Carlton), 2014. **19**(3): p. 149-56.
284. Ishii, S., et al., *Clinical significance of heart rate during acute decompensated heart failure to predict left ventricular reverse remodeling and prognosis in response to therapies in nonischemic dilated cardiomyopathy*. Heart Vessels, 2014. **29**(1): p. 88-96.
285. Iyngkaran, P., et al., *Northern Territory Heart Failure Initiative-Clinical Audit (NTHFI-CA)-a prospective database on the quality of care and outcomes for acute decompensated heart failure admission in the Northern Territory: study design and rationale*. BMJ Open, 2014. **4**(1): p. e004137.
286. Jackson, C.E., R.C. Myles, and J.J. McMurray, *Microvolt T-wave alternans testing in patients recently hospitalized with decompensated heart failure*. Eur J Heart Fail, 2014. **16**(1): p. 113.
287. Kasama, S., et al., *Evaluation of cardiac sympathetic nerve activity and aldosterone suppression in patients with acute decompensated heart failure on treatment containing intravenous atrial natriuretic peptide*. Eur J Nucl Med Mol Imaging, 2014.
288. Kobayashi, S., et al., *A low-dose beta1-blocker effectively and safely slows the heart rate in patients with acute decompensated heart failure and rapid atrial fibrillation*. Cardiology, 2014. **127**(2): p. 105-13.
289. Koza, Y., *Acute decompensated heart failure and pulmonary hypertension*. J Card Fail, 2014. **20**(1): p. 63.
290. Kulkarni, V.T., et al., *Hospital Variation in Non-Invasive Positive Pressure Ventilation for Acute Decompensated Heart Failure*. Circ Heart Fail, 2014.
291. Kwong, J.S. and C.M. Yu, *Ultrafiltration for acute decompensated heart failure: a systematic review and meta-analysis of randomized controlled trials*. Int J Cardiol, 2014. **172**(2): p. 395-402.
292. Lee, S.R., et al., *Prognostic Implication of QRS Variability during Hospitalization in Patients with Acute Decompensated Heart Failure*. Korean Circ J, 2014. **44**(1): p. 22-9.
293. Leto, L., N. Aspromonte, and M. Feola, *Efficacy and safety of loop diuretic therapy in acute decompensated heart failure: a clinical review*. Heart Fail Rev, 2014. **19**(2): p. 237-46.
294. Liu, C., K. Liu, and C.-A.S. Group, *Cardiac Outcome Prevention Effectiveness of Glucocorticoids in Acute Decompensated Heart Failure: COPE-ADHF Study*. J Cardiovasc Pharmacol, 2014. **63**(4): p. 333-8.
295. Madias, J.E., *Decompensated chronic heart failure>Takotsubo syndrome versus Takotsubo syndrome>decompensated chronic heart failure: Two plausible inverse parallels*. Int J Cardiol, 2014. **173**(2): p. 319.
296. Matsue, Y., et al., *Clinical effectiveness of tolvaptan in patients with acute decompensated heart failure and renal failure: design and rationale of the AQUAMARINE study*. Cardiovasc Drugs Ther, 2014. **28**(1): p. 73-7.
297. Maze, R. and H. Haddad, *An update in the management of acute decompensated heart failure*. Curr Opin Cardiol, 2014. **29**(2): p. 180-4.
298. Naffaa, M., et al., *Brain natriuretic peptide at discharge as a predictor of 6-month mortality in acute decompensated heart failure*. Am J Emerg Med, 2014. **32**(1): p. 44-9.
299. Ohmura, T., et al., *Impact of pre-discharge nocturnal pulse oximetry (sleep-disordered breathing) on post-discharge clinical outcomes in hospitalized patients with left ventricular systolic dysfunction after acute decompensated heart failure*. Am J Cardiol, 2014. **113**(4): p. 697-700.
300. Okuhara, Y., et al., *Intravenous Salt Supplementation with Low-dose Furosemide for Treatment of Acute Decompensated Heart Failure*. J Card Fail, 2014.

301. Pan, H.Y., et al., *Comparative effects of recombinant human brain natriuretic peptide and dobutamine on acute decompensated heart failure patients with different blood BNP levels*. BMC Cardiovasc Disord, 2014. **14**: p. 31.
302. Pauly, D.F., *Managing acute decompensated heart failure*. Cardiol Clin, 2014. **32**(1): p. 145-9, ix.
303. Rao, N., et al., *Dramatic improvement in decompensated right heart failure due to severe tricuspid regurgitation following ligation of arteriovenous fistula in a renal transplant recipient*. Semin Dial, 2014. **27**(2): p. E24-6.
304. S, Y.H., *Chronic takotsubo syndrome with acute exacerbations may be the villain in the increase of morbidity and mortality in patients with decompensated chronic heart failure*. Int J Cardiol, 2014. **172**(3): p. 609-10.
305. Salah, K., et al., *A novel discharge risk model for patients hospitalised for acute decompensated heart failure incorporating N-terminal pro-B-type natriuretic peptide levels: a European collaboration on Acute decompensated Heart Failure: ELAN-HF Score*. Heart, 2014. **100**(2): p. 115-25.
306. Sancho-Zamora, M.A., *Home Subcutaneous Infusion of Furosemide in Advanced Decompensated Heart Failure*. Rev Esp Cardiol, 2014. **67**(3): p. 241-242.
307. Sargento, L., et al., *Heart Rate Reduction with Ivabradine in Patients with Acute Decompensated Systolic Heart Failure*. Am J Cardiovasc Drugs, 2014.
308. Scrutinio, D., et al., *The ADHF/NT-proBNP risk score to predict 1-year mortality in hospitalized patients with advanced decompensated heart failure*. J Heart Lung Transplant, 2014. **33**(4): p. 404-11.
309. Shah, R., et al., *Body mass index and mortality in acutely decompensated heart failure across the world: a global obesity paradox*. J Am Coll Cardiol, 2014. **63**(8): p. 778-85.
310. Shirakabe, A., et al., *Immediate administration of tolvaptan prevents the exacerbation of acute kidney injury and improves the mid-term prognosis of patients with severely decompensated acute heart failure*. Circ J, 2014. **78**(4): p. 911-21.
311. Sica, D.A. and K.B. Shah, *More Salt is Better: A Novel Management Approach to Acute Decompensated Heart Failure*. J Card Fail, 2014.
312. Singer, A.J., et al., *Hemodynamic profiles of ED patients with acute decompensated heart failure and their association with treatment*. Am J Emerg Med, 2014. **32**(4): p. 302-5.
313. Singh, D., et al., *Insufficient Natriuretic Response to Continuous Intravenous Furosemide Is Associated with Poor Long-Term Outcomes in Acute Decompensated Heart Failure*. J Card Fail, 2014.
314. Testani, J.M., et al., *Loop diuretic efficiency: a metric of diuretic responsiveness with prognostic importance in acute decompensated heart failure*. Circ Heart Fail, 2014. **7**(2): p. 261-70.
315. Triposkiadis, F.K., et al., *Efficacy and safety of high dose versus low dose furosemide with or without dopamine infusion: the Dopamine in Acute Decompensated Heart Failure II (DAD-HF II) trial*. Int J Cardiol, 2014. **172**(1): p. 115-21.
316. Turner, J.M. and J.M. Testani, *Do Any Patients with Acute Decompensated Heart Failure and Acute Cardio-Renal Syndrome Benefit from Ultrafiltration?* Semin Dial, 2014.
317. Ueda, T., et al., *Noncardiovascular death, especially infection, is a significant cause of death in elderly patients with acutely decompensated heart failure*. J Card Fail, 2014. **20**(3): p. 174-80.
318. Wang, S., et al., *The effect of B-type brain natriuretic peptide on patients with acute decompensated heart failure coexisting with lung cancer: a randomized controlled clinical trial*. Pharmazie, 2014. **69**(3): p. 212-6.
319. Wu, M.Y., et al., *Loop diuretic strategies in patients with acute decompensated heart failure: a meta-analysis of randomized controlled trials*. J Crit Care, 2014. **29**(1): p. 2-9.
320. Zatarain-Nicolas, E., L. de la Fuente-Galan, and J.A. San Roman-Calvar, *Home Subcutaneous Infusion of Furosemide in Advanced Decompensated Heart Failure. Response*. Rev Esp Cardiol, 2014. **67**(3): p. 242.