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2023 Update on Sepsis and Septic - Fibristonaus Shock in Adult Patients Timesed. -pania

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Content

- 1 Understanding Sepsis and Septic Shock
- 2 Treatment Strategies in the Emergency Department
- 3 Optimizing Patient Outcomes



Section 1

Understanding Sepsis and Septic Shock

Pathophysiology of Sepsis



Inflammatory Response

Sepsis triggers an uncontrolled inflammatory response, leading to widespread tissue damage and organ dysfunction, impacting patient outcomes significantly. 02

Microcirculation

The dysfunction of the microcirculation in sepsis is a critical determinant of patient prognosis and response to treatment, emphasizing the importance of microcirculatory assessment. 03

Risk Factors

Identifying patientspecific risk factors for multiresistant pathogens is crucial for tailoring antimicrobial therapy and improving patient survival rates.



Diagnosis and Assessment



Early Recognition

Timely recognition of sepsis and septic shock is pivotal for initiating prompt treatment and improving patient outcomes, highlighting the need for robust clinical suspicion and vigilance.

Clinical Criteria

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Understanding the clinical criteria and diagnostic tools for identifying sepsis and septic shock in the emergency department is essential for accurate and timely diagnosis. **O** Severity Assessment

Methods for assessing the severity of sepsis and septic shock, such as the Sequential Organ Failure Assessment (SOFA) score, guide appropriate management strategies and resource allocation.

Epidemiology and Impact

Global Burden

Exploring the global epidemiology and impact of sepsis and septic shock on healthcare systems and patient outcomes provides context for the urgency of effective management and resource allocation.

Mortality Rates

Understanding the mortality rates associated with sepsis and septic shock and the factors influencing patient survival sheds light on the critical need for optimized management strategies

Healthcare Costs

Discussing the economic burden of sepsis and septic shock on healthcare resources and the implications for healthcare delivery underscores the need for cost-effective and efficient management approaches.

Section 2

Treatment Strategies in the Emergency Department

Antimicrobial Therapy

Empirical Treatment

Initiating early and appropriate empirical antimicrobial therapy to target likely pathogens is crucial for improving patient outcomes and reducing the risk of treatment failure.

Reassessment

Daily reassessment of antimicrobial therapy to optimize treatment based on culture results and clinical response is essential for combating antimicrobial resistance and tailoring therapy.

Multiresistant Pathogens

Considering risk factors for multiresistant pathogens, such as recent hospitalization or prior antibiotic use, guides antimicrobial selection and reduces the risk of treatment failure.



MRSA	1. 1 2. 1 3. 1 4. 1 5. 1 6. 1 7. 1 8. 1 9. 1 10. 0	Previous infection/colonization by MRSA in the last 12 months Hemodialysis or peritoneal dialysis Presence of central venous catheters or intravascular devices Administration of multiple antibiotics in the last 30 days (in particular with cephalosporins or fluoroquinolones) Immunodepression Immunosuppressor treatments Rheumatoid arthritis Drug addiction Patients coming from long-term care facilities or who have undergone hospital stay in the last 12 months Close contact with patients colonized by MRSA
ESBL	1.] 2.] 3.] 4 5.]	Previous infection/colonization with ESBL in the last 12 months Prolonged hospitalization (>10 days, in particular in ICU/hospice/long-term care facilities) Presence of permanent urinary catheter Administration of multiple antibiotics in the last 30 days (particularly with cephalosporins or fluoroquinolones) Patients with percutaneous endoscopic gastrostomy

Pseudomonas aeruginosa	1. 2. 3. 4. 5. 6. 7. 8. 9.	Previous infection/colonization with P. aeruginosa in the last 12 months Administration of multiple antibiotics in the last 30 days (particularly with cephalosporins or fluoroquinolones) Pulmonary anatomic abnormalities with recurrent infections (e.g., bronchiectasis) Elderly patients (>80 years) Scarce glycemic control in diabetic subjects Presence of permanent urinary catheter Prolonged steroid use (>6 weeks) Neutropenic fever Cystic fibrosis
Candida spp.	1. 2. 3. 4. 5. 6. 7. 8.	Immunodepression Presence of central venous catheters or intravascular devices Patients in total parenteral nutrition Prolonged hospitalization (>10 days, particularly in an ICU) Recent surgery (particularly abdominal surgery) Prolonged wide-range antibiotic administration Previous necrotizing pancreatitis Recent fungal infection/colonization

Note: ESBL: Extended Spectrum Beta-lactamase; ICU: Intensive Care Unit; MRSA: Methicillin-Resistant *Staphylococcus aureus*.



Fluid Resuscitation

The role of balanced crystalloids as the fluid of choice and the importance of individualized fluid resuscitation based on hemodynamic status are pivotal in preventing fluid overload and improving patient outcomes.

Vasopressor Therapy

Early initiation and selection of vasopressors to support hemodynamic stability in septic shock are critical for preventing organ dysfunction and improving survival rates.

Hemodynamic Support



Inotropic Support

Considerations for inotropic support in patients with septic cardiomyopathy aim to optimize cardiac output and tissue perfusion, improving patient outcomes.



Organ Support and Adjunctive Therapies



Oxygenation and Ventilation

Guidelines for oxygen therapy and mechanical ventilation in septic patients with acute respiratory failure aim to optimize oxygen delivery and prevent further organ damage.



Renal Replacement Therapy

Considerations for renal replacement therapy in septic patients with acute kidney injury aim to maintain fluid and electrolyte balance and improve patient outcomes.



Corticosteroids

The role and controversies surrounding the use of corticosteroids in sepsis and septic shock require careful consideration to balance potential benefits and risks.



Optimizing Patient Outcomes

Early Goal-Directed Therapy



Protocolized Care

Implementing early goal-directed therapy protocols to optimize resuscitation and management in the emergency department standardizes care and improves patient outcomes.



Bundle Interventions

The impact of sepsis bundles in standardizing care and improving patient outcomes emphasizes the need for structured and coordinated interventions.



Quality Improvement Initiatives

Strategies for implementing quality improvement initiatives to enhance sepsis care delivery focus on continuous enhancement of patient care and outcomes.

Patient Monitoring and Follow-Up



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Education and

Awareness

Public Awareness

• Strategies for raising public awareness about sepsis and the importance of early recognition and treatment aim to improve community response and reduce delays in seeking medical care.

Healthcare Provider Training

 Training initiatives for healthcare providers to enhance their knowledge and skills in managing sepsis and septic shock are pivotal for improving patient outcomes and reducing mortality rates.

Research and Innovation

• The role of research and innovation in advancing sepsis management and improving patient outcomes underscores the need for ongoing advancements in sepsis care and treatment strategies.

Pilares del tratamiento	Perspectivas del médico de urgencias
	- Se requieren muestras de cultivo antes de la administración de antimicrobianos;
	- Los tratamientos deben basarse en criterios clínicos/epidemiológicos e iniciarse lo antes posible;
Antimicrobianos	- Se recomiendan reevaluaciones frecuentes del estado de los pacientes y de los niveles de PCT para una estrategia de reducción adecuada;
	- Pueden estar indicados ciclos cortos de tratamientos antimicrobianos.
	- Los cristaloides equilibrados son el líquido de elección; -
fluidos	Son preferibles las estrategias de reanimación individualizadas basadas en FT y FR; - Se
nuidos	recomiendan enfoques basados en bolos pequeños y repetidos (250 a 500 ml) de cristaloides con monitorización hemodinámica continua .
	- Se requieren vasopresores si la PAM de un paciente es <65 mmHg a pesar de la reposición de líquidos; - La
A	NE en dosis de 0,1 a 1,2 μg/kg/min es el fármaco de elección para los pacientes sépticos; - La
Agentes vasoactivos	administración temprana de NE podría prevenir la sobrecarga de líquidos, reduciendo así la mortalidad; - La
	VP en dosis de 0,25 a 0,5 µg/kg/min se puede combinar con NE si no se alcanza la PAM objetivo.
	- La oxigenación debe iniciarse a 15 L/min mediante una máscara reservorio;
Oxigenación v	- Los valores objetivo para la titulación deben ser SpO2 94–98 % o SpO2 88–92 % si el paciente tiene riesgo de sufrir
Soporte de ventilación	insuficiencia respiratoria hipercápnica;
	Si se necesita VNI/VM, se recomienda un volumen corriente bajo (6 ml/kg); - La
	CNAF puede utilizarse en pacientes sépticos con insuficiencia respiratoria hipóxica.

Tabla 3. Resumen de las perspectivas del médico de urgencias informadas en este manuscrito.

	debe utilizar HBPM en lugar de UFH para prevenir el TEV; - Se recomienda			
	la profilaxis mecánica en pacientes no aptos para el tratamiento con heparina.			
	(2) Insulina: se			
	recomienda el uso de insulina para alcanzar un objetivo de glucosa entre 144 y 180 mg/dL.			
	(3) Inhibidores de la bomba de protones:			
	el tratamiento con IBP puede ser necesario para prevenir las úlceras por estrés.			
	(4) Terapia de reemplazo renal			
Otros tratamientos	- Aunque la IRA es una complicación común de la sepsis, la TRR sólo puede estar indicada en algunos subconjuntos de pacientes.			
	(5) Esteroides:			
	se puede considerar la hidrocortisona en pacientes con resistencia a los vasopresores, MAPA inadecuado.			
	(6) Bicarbonato de sodio: se			
	puede administrar bicarbonato de sodio a pacientes con niveles graves de bicarbonato < 5 mEq/L y/o pH < 7,1 o IRA en estadio 2 o 3.			
	(7) Acetaminofén: el			
	acetaminofén debe administrarse como fármaco sintomático.			

Nota: IRA: lesión renal aguda; FR: capacidad de respuesta a los fluidos; FT: tolerancia a líquidos; CNAF: cánula nasal de alto flujo; HBPM: heparina de bajo peso molecular; PAM: presión arterial media; NE: noradrenalina; PCT: procalcitonina; IBP: inhibidor de la bomba de protones; TRR: terapia de reemplazo renal; SSC: campaña de supervivencia a la sepsis; HNF: heparina no fraccionada; VP: vasopresina; TEV: tromboembolismo venoso.

Thank You!