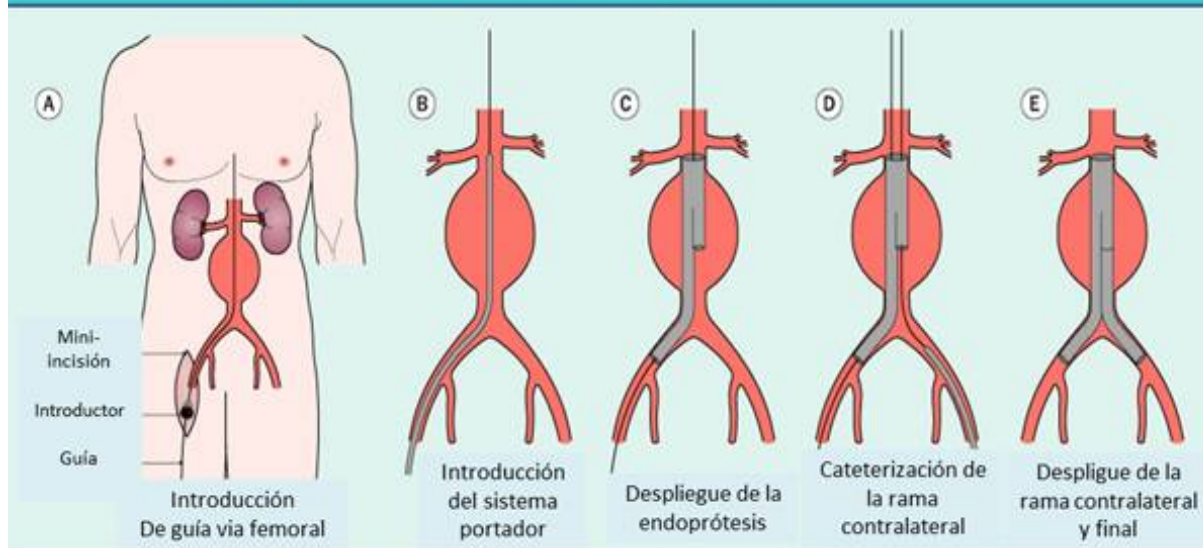


Dr. German Echanique

- SM 64 años, Procedente de Ciudad de Paysandú.
- DM tipo 2
- Ex fumador
- Enfermedad de Hodgkin en la adolescencia.
- Cardiopatía isquémico hipertensiva, en 2009 muerte súbita con reanimación en FV en contexto de IAM. 2013 colocación de stent
- Pancreatitis litiasica en 2014
- En 2010 Aneurisma de aorta con extensión a iliaca primitiva que requirió colocación de endoprotesis

Esquema del implante de una endoprótesis de aorta abdominal



- Ingresa a Sanatorio el 5 de diciembre de 2015, procedente de domicilio, por cuadro febril de una semana de evolución, chuchos, decaimiento general, artromialgias. Refiere adelgazamiento los últimos 3 meses. No sabe precisar cuanto
- Sin sintomatología orofaríngea, respiratoria, digestiva, urinario ni cutánea.
- A las 48 hs del ingreso agrega dolor perimaleolar derecho, con lesiones cutáneas rojo-vinosas en dicha zona.

- Hemocultivos no desarrollan.
- Rx Tx sin foco de consolidación
- Sin leucocitosis. PCR 12
- ETT y ETE sin lesiones intracardiacas
- Se solicita TAC abdomen

36728397

A

Aorta Total 5.0 B31s

U6ZY/M/14-dic-195Z

08-dic-2015

Acq: 18:31:39.74391

Se: 5

Im: 40/171

Loc: E135,9

R

L

APPLIED

600 ms

0°

187 mA

110 kV

B31s

Thk: 5.0 mm

Zoom: 1.00x

W:300 L:40 (WINDOW1)

Lic. S. Saldaña

c888606

Emoción 16

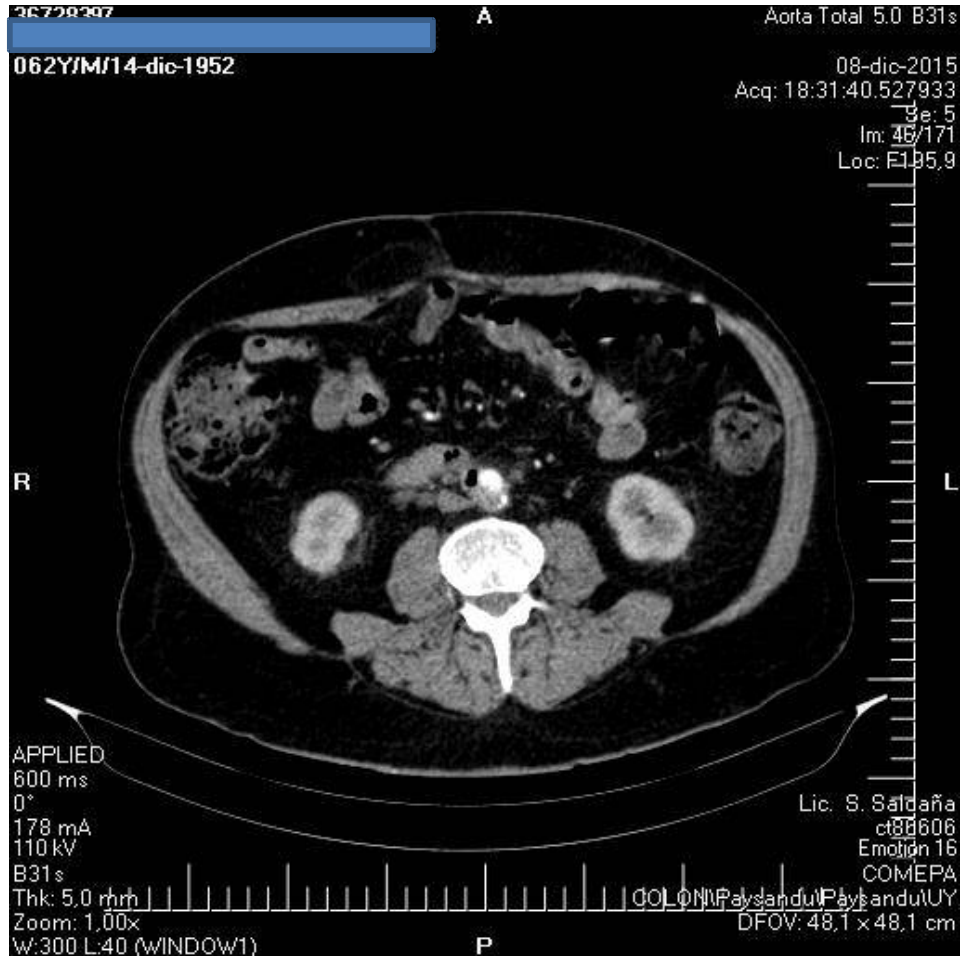
COMESA

COLONIPaysanduIPaysanduUY

DFOV: 48,1 x 48,1 cm

P





36728397

A

Aorta Total 5.0 B31s

U6ZY/M/14-dic-195Z

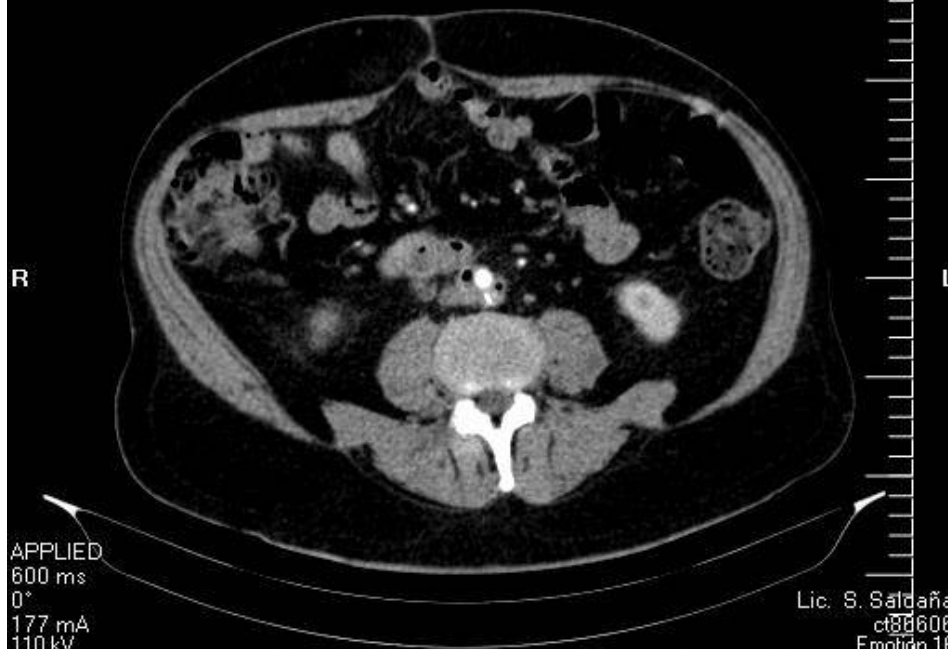
08-dic-2015

Acq: 18:31:40.788724

Se: 5

Im: 48/171

Loc: E205,9



APPLIED

600 ms

0°

177 mA

110 kV

B31s

Thk: 5.0 mm

Zoom: 1.00x

W:300 L:40 (WINDOW1)

Lic. S. Saldaña

c888606

Emoción 16

COMESA

COLONIPaysandulPaysandulUY

DFOV: 48,1 x 48,1 cm

P

36728397

A

Aorta Total 5.0 B31s

U6ZY/M/14-dic-195Z

08-dic-2015

Acq: 18:31:40.91912

Se: 5

Im: 49/171

Loc: E210,9

R

L

APPLIED

600 ms

0°

176 mA

110 kV

B31s

Thk: 5.0 mm

Zoom: 1.00x

W:300 L:40 (WINDOW1)

Lic. S. Saldaña

c888606

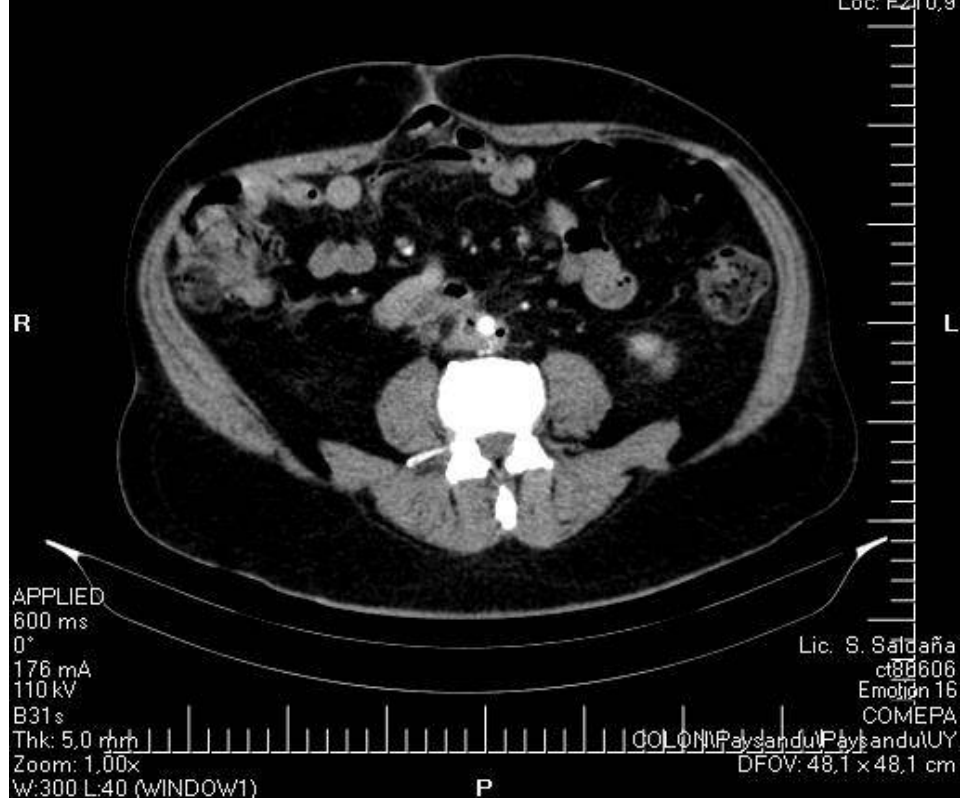
Emoción 16

COMESA

COLONIPaysanduIPaysanduUY

DFOV: 48,1 x 48,1 cm

P



36728397

A

Aorta Total 5.0 B31s

U6ZY/M/14-dic-195Z

08-dic-2015

Acq: 18:31:41.049516

Se: 5

Im: 50/171

Loc: E215,9

R

L

APPLIED

600 ms

0°

173 mA

110 kV

B31s

Thk: 5.0 mm

Zoom: 1.00x

W:300 L:40 (WINDOW1)

Lic. S. Saldaña

c888606

Emoción 16

COMESA

COLONIPaysanduIPaysanduUY

DFOV: 48,1 x 48,1 cm

P



36728397

A

Aorta Total 5.0 B31s

U6ZY/M/14-dic-195Z

08-dic-2015

Acq: 18:31:41.180716

Se: 5

Im: 51/171

Loc: F220,9

R

L

APPLIED

600 ms

0°

173 mA

110 kV

B31s

Thk: 5.0 mm

Zoom: 1.00x

W:300 L:40 (WINDOW1)

Lic. S. Saldaña

c888606

Emoción 16

COMESA

COLONIPaysanduIPaysanduUY

DFOV: 48,1 x 48,1 cm

P



36728397

A

Aorta Total 5.0 B31s

U6ZY/M/14-dic-195Z

08-dic-2015

Acq: 18:31:41.310307

Se: 5

Im: 52/171

Loc: E225,9

R

L

APPLIED

600 ms

0°

168 mA

110 kV

B31s

Thk: 5.0 mm

Zoom: 1.00x

W:300 L:40 (WINDOW1)

Lic. S. Saldaña

c888606

Emoción 16

COMESA

COLONIPaysanduIPaysanduUY

DFOV: 48,1 x 48,1 cm

P



36728397

A

Aorta Total 5.0 B31s

U6ZY/M/14-dic-195Z

08-dic-2015

Acq: 18:31:41.441507

Se: 5

Im: 53/171

Loc: F230,9

R

L

APPLIED

600 ms

0°

170 mA

110 kV

B31s

Thk: 5.0 mm

Zoom: 1.00x

W:300 L:40 (WINDOW1)

Lic. S. Saldaña

c888606

Emoción 16

COMESA

COLONIPaysanduIPaysanduUY

DFOV: 48.1 x 48.1 cm

P



36728397

A

Aorta Total 5.0 B31s

U6ZY/M/14-dic-195Z

08-dic-2015

Acq: 18:31:41.571903

Se: 5

Im: 54/171

Loc: E235,9

R

L

APPLIED

600 ms

0°

167 mA

110 kV

B31s

Thk: 5.0 mm

Zoom: 1.00x

W:300 L:40 (WINDOW1)

Lic. S. Saldaña

c888606

Emoción 16

COMESA

COLONIPaysandulPaysandulUY

DFOV: 48,1 x 48,1 cm

P



36728397

A

Aorta Total 5.0 B31s

U6ZY/M/14-dic-195Z

08-dic-2015

Acq: 18:31:41.702298

Se: 5

Im: 55/171

Loc: E240,9

R

L

APPLIED

600 ms

0°

164 mA

110 kV

B31s

Thk: 5.0 mm

Zoom: 1.00x

W:300 L:40 (WINDOW1)

Lic. S. Saldaña

c888606

Emoción 16

COMESA

COLONIPaysanduIPaysanduUY

DFOV: 48,1 x 48,1 cm

P



36728397

A

Aorta Total 5.0 B31s

U6ZY/M/14-dic-195Z

08-dic-2015

Acq: 18:31:41.833498

Se: 5

Im: 56/171

Loc: F245,9

R

L

APPLIED

600 ms

0°

163 mA

110 kV

B31s

Thk: 5.0 mm

Zoom: 1.00x

W:300 L:40 (WINDOW1)

Lic. S. Saldaña

c888606

Emoción 16

COMESA

COLONIPaysanduIPaysanduUY

DFOV: 48,1 x 48,1 cm

P



36728397

A

Aorta Total 5.0 B31s

U6ZY/M/14-dic-195Z

08-dic-2015

Acq: 18:31:41.963089

Se: 5

Im: 57/171

Loc: E250,9

R

L

APPLIED

600 ms

0°

155 mA

110 kV

B31s

Thk: 5.0 mm

Zoom: 1.00x

W:300 L:40 (WINDOW1)

Lic. S. Saldaña

c888606

Emoción 16

COMESA

COLONIPaysanduIPaysanduUY

DFOV: 48,1 x 48,1 cm

P



36728397

A

Aorta Total 5.0 B31s

U6ZY/M/14-dic-195Z

08-dic-2015

Acq: 18:31:42.746308

Se: 5

Im: 63/171

Loc: F2B0,9

R

L

APPLIED

600 ms

0°

149 mA

110 kV

B31s

Thk: 5.0 mm

Zoom: 1.00x

W:300 L:40 (WINDOW1)

Lic. S. Saldaña

c888606

Emoción 16

COMESA

COLONIPaysanduIPaysanduUY

DFOV: 48,1 x 48,1 cm

P



- PLANTEOS DIAGNOSTICOS?

- Valorado por cirujano vascular descarta compromiso de prótesis aortica.
- Plantea diagnóstico de artritis séptica maleolar derecha.



- Traumatólogo realiza punción. No le impresiona compromiso articular. Plantea infección de partes blandas
- Cultivo líquido articular no desarrolla

- El paciente persiste con registros febriles de hasta 38,5°C, dolor en aumento en pie y maléolo derecho, lesiones en pie y tobillo rojizas, algunas forman flictenas violáceas.
- Se decide realizar PET-SCAN, que informa:
 - Hipermetabolismo (inflamatorio/infeccioso) por probable absceso en fosa iliaca derecha con compromiso parietal. Hallazgos sugestivos de compromiso inflamatorio-infeccioso de la articulación tibiotarsiana.

- El 14/01/16 resección de prótesis iliaca derecha.
- No se retira en forma total la prótesis.
 - Terreno del paciente
 - Abdomen hostil. Infechado
 - Alta morbimortalidad

36728397

<VRT Rango>

U6ZT/M/14-dic-195Z

08-dic-2015
Acq: 18:31:34.675903
Se: 602
Im: 7/20
Loc: -

Spin: -26
Tilt: -5

Thk: -
Zoom: 1,00x
W:256 L:128 (Identity)



meduser
ct86606
Emotion 16
COMESA
COLON\Paysandu\Paysandu\UY
DFOV: -

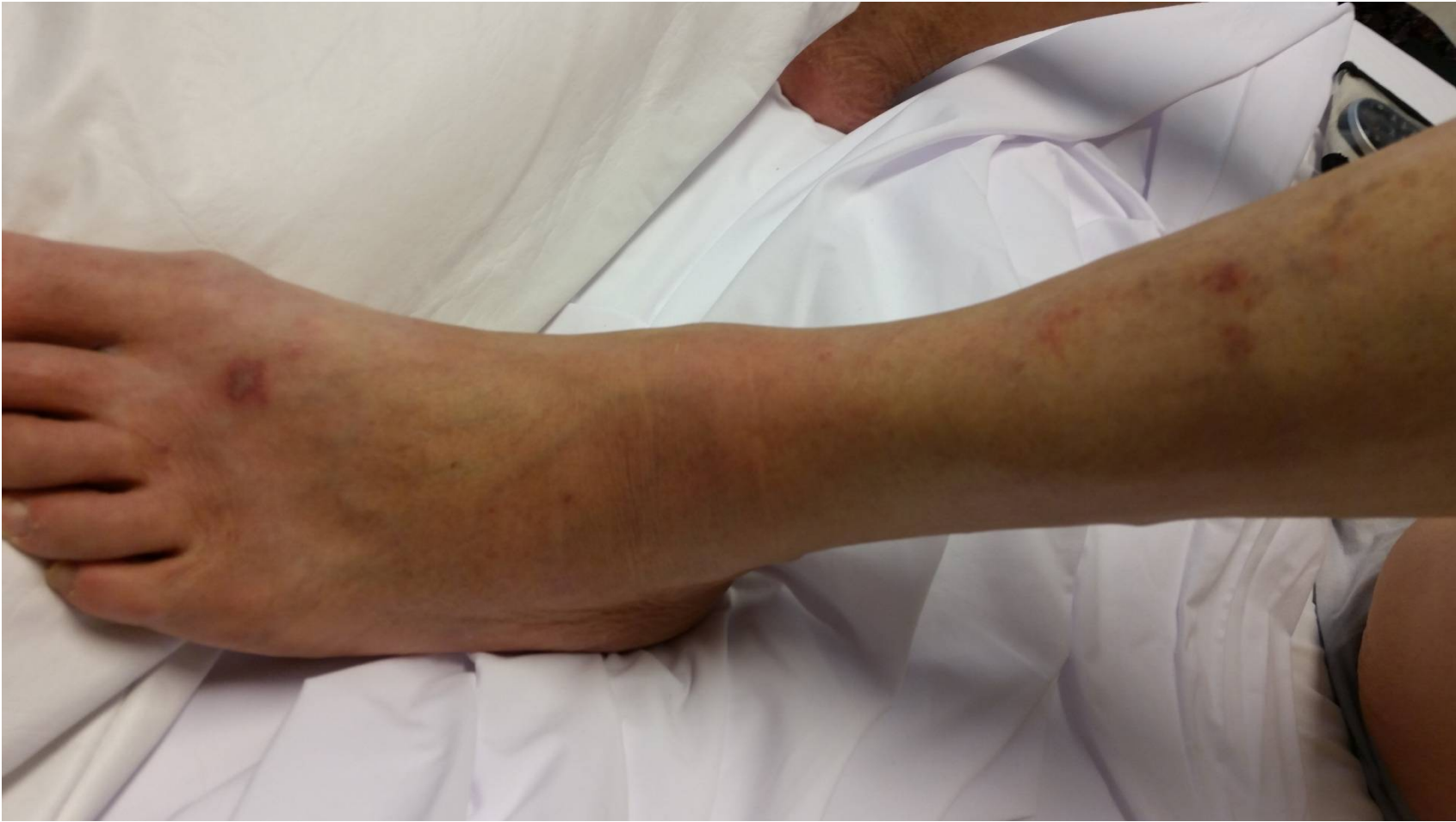
- Cultiva *Klebsiella pneumoniae* sensible a imipenem, ciprofloxacina y ceftazidime.
- Se realiza Ceftazidime + Ciprofloxacina iv 15 días post resección.
- Mejoría. Sin fiebre desaparecen lesiones cutáneas y dolor.
- Completa 4 semanas mas de ciprofloxacina v.o.
- Alta en a fines de enero 2016

- Enviado de domicilio el 11/11/16 por sensación febril de 1 semana de evolución, con chuchos y dolor en MII, a nivel de pierna y tobillo.
- Nota lesiones cutáneas a nivel de dorso de pie y pierna izquierda.
- Dificultad para deambular.
- Descontrol metabólico.
- Reinicia plan ATB. Ceftazidime + Ciprofloxacina IV















28/11/16













- Arteriografía no muestra desarrollo de colaterales en femoral izquierda

36728397

U6ZY/M/14-dic-195Z

<VRT Rango>

08-dic-2015

Acq: 18:31:34.675903

Se: 602

Im: 7/20

Loc: -

Spin: -26
Tilt: -5

Thk: -
Zoom: 1.00x
W:256 L:128 (Identity)



meduser
c186606
Emotion 16
COMESA
COLONIPaysandulPaysandulUY
DFOV: -

- Se realiza limpieza quirúrgica periprótésis con toma de cultivo, se deja drenaje.
- Cultivo desarrolla *Staphylococcus aureus* meticilino resistente.
- Se rota plan atb a vancomicina iv.
- Se realizan 15 días de tratamiento iv ajustado a vancominemia y función renal.
- Se mantiene con linezolid vo. Hasta completar 6 meses

Discusión

- Diagnóstico
- Terapéutico. Opciones

Diagnosis and treatment of prosthetic aortic graft infections: confusion and inconsistency in the absence of evidence or consensus

S. F. FitzGerald^{1*}, C. Kelly² and H. Humphreys¹

¹Departments of Microbiology and Clinical Microbiology, Beaumont Hospital and the Royal College of Surgeons in Ireland, Dublin, Ireland; ²Department of Surgery, Beaumont Hospital and the Royal College of Surgeons in Ireland, Dublin, Ireland

Prosthetic aortic graft infections represent a major diagnostic and therapeutic challenge. Although a combination of clinical assessment, imaging and microbiological investigations is usually helpful, there are no agreed criteria to confirm a diagnosis. Potential pathogens isolated from superficial specimens may be misleading but influence the choice of antimicrobial agents. Removal of the infected material is strongly recommended. However, this is not always possible in the very debilitated or clinically unstable patient. The choice of which antimicrobial agents to administer as empirical or definitive therapy and the duration of treatment are unclear. A multi-disciplinary group is required to offer guidance, based on what evidence there is, and to provide expert consensus (as is the case for infective endocarditis) to optimize the management of these difficult infections.

Cirurgia de revascularização em terrenos infectados – uma questão ainda não resolvida

Revascularization surgery in infected fields – an issue yet to be solved

A. Dinis da Gama *

* Clínica Universitária de Cirurgia Vascular, Hospital de Santa Maria, Lisboa, Portugal.

J Vasc Br 2005;4(2):116-9.

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- El tratamiento quirúrgico se basa en la remoción integral de la prótesis infectada, seguida siempre de un procedimiento de revascularización.
- La revascularización puede ser extraanatómica o revascularización local o insitu.

- Revascularización extraanatómica o bypass axilo bifemoral.
 - Menos durabilidad, formación de aneurismas inflexiones.
- Los procedimientos de revascularización *in situ* se dividen en dos capítulos
 - Sustitutos protésicos, poliéster PTFE
 - Sustitutos biológicos
 - Autoinjertos. Arteria femoral, Vena Safena

ORIGINALES

Infección asociada a prótesis vascular: manejo exitoso sin retirada de prótesis

C. Martínez-Vázquez^a, B. Sopena^a, I. Oliveira^a, R. Bouzas^b, J. Encisa^c, A. Ocampo^a, C. Gallego^c y J. Bordón^d

^aUnidad de Enfermedades Infecciosas. ^bDepartamento de Radiología y ^cDepartamento de Cirugía Vascular.
Hospital Xeral-Cies. Vigo. Pontevedra. ^dDepartment of Medicine.
Providence Hospital. Washington, D.C, EE.UU.

Martínez-Vázquez C, Sopena B, Oliveira I, Bouzas R, Encisa J, Ocampo A, Gallego C, Bordón J. Infección asociada a prótesis vascular: manejo exitoso sin retirada de prótesis. Rev Clin Esp. 2007;207(7):317-21.

- El manejo de las infecciones asociadas a prótesis vasculares es controvertido. La retirada del injerto vascular infectado seguido de revascularización fue una práctica temprana en el manejo de esta complicación. Esta aproximación está asociada a una alta incidencia de amputaciones y mortalidad, en parte debido a la alta asociación de comorbilidades vistas en esta población de pacientes.

- Estas complicaciones tan importantes asociadas con la retirada del injerto vascular, han hecho considerar estrategias conservadoras en este tipo de pacientes. Numerosos expertos recomiendan la total o parcial preservación de la prótesis, si es posible, en casos de infección asociada a prótesis vascular.

MARTÍNEZ-VÁZQUEZ C ET AL. INFECCIÓN ASOCIADA A PRÓTESIS VASCULAR: MANEJO EXITOSO SIN RETIRADA DE PRÓTESIS

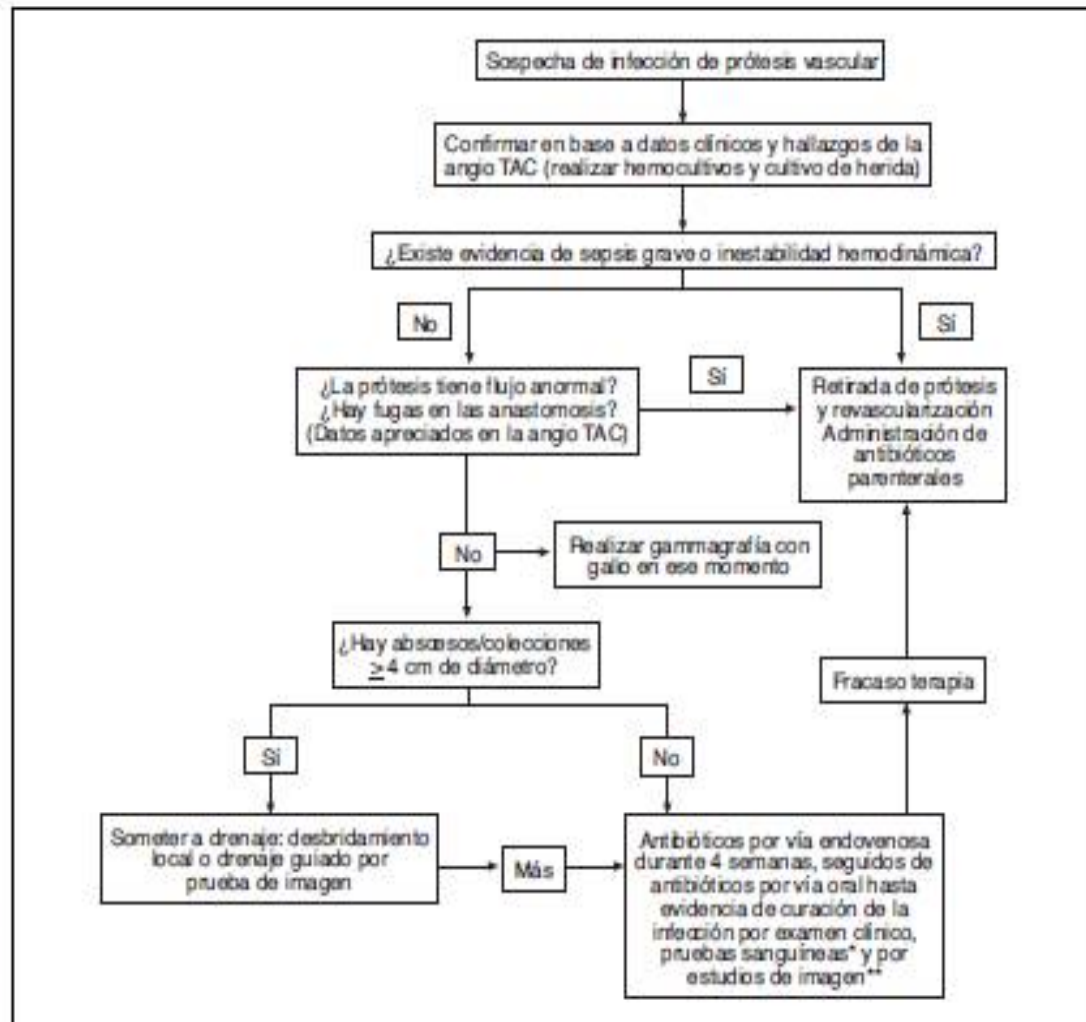


Fig. 1. Manejo de infección de prótesis vascular.
*Velocidad de sedimentación globular y proteína C reactiva.
**AngioTAC y gammagrafía con galio.
TAC: tomografía axial computarizada.

How To Diagnose and Manage Infected Endografts after Endovascular Aneurysm Repair

Carlo Setacci, MD¹, Emiliano Chisci, MD^{2*}, Francesco Setacci, MD³, Leonardo Ercolini, MD², Gianmarco de Donato, MD¹, Nicola Troisi, MD², Giuseppe Galzerano, MD¹, Stefano Michelagnoli, MD²

¹Vascular and Endovascular Surgery Unit, University of Siena, Siena, Italy; ²Department of Surgery, Vascular and Endovascular Surgery Unit, "San Giovanni di Dio" Hospital, Florence, Italy; and ³P. Valdoni Department of Surgery, La Sapienza University, Rome, Italy

Based on a Presentation at the 2013 VEITH Symposium, November 19–23, 2013 (New York, NY, USA)



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50124 Florence, Italy

Tel.: +39 055 693 2440, Fax: +39 055 693 2670, E-Mail: e.chisci@gmail.com

Conservative Treatment

In selected high-risk patients with multiple comorbidities with or without a hostile abdomen, conservative treatment is likely the only acceptable solution [10,11,14,25,26,40–43,64–69,85–87,90,92]. Sometimes, it is better to cope with suboptimal therapy, as in conservative treatments, and allow the patient some more life years than to be extremely radical [87]. In

Although the consensus is that, in suitable patients, the infected graft material should always be removed, some authors [14] showed no significant difference in mortality between the conservatively and surgically managed groups (possibly related to the small sample size analyzed) [43]. Cernohorsky et al. [14] concluded their study by saying that there may be a role for conservative treatment in selected cases of patients with stent-graft infection, possibly those patients with minor, low-grade infections.

Diagnosis of Aortic Graft Infection: A Case Definition by the Management of Aortic Graft Infection Collaboration (MAGIC)

O.T.A. Lyons^{a,b}, M. Baguneid^{c,d}, T.D. Barwick^{e,f}, R.E. Bell^a, N. Foster^g, S. Homer-Vanniasinkam^{h,i}, S. Hopkins^j, A. Hussain^{k,l}, K. Katsanos^{m,n}, B. Modarai^{a,b}, J.A.T. Sandoe^{g,o}, S. Thomas^p, N.M. Price^{q,*}

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^c Department of Vascular Surgery, University Hospital of South Manchester NHS Foundation Trust, Manchester, UK

^d School of Health Sciences, University of Salford, Salford, UK

^e Department of Radiology & Nuclear Medicine, Imperial College Healthcare NHS, London, UK

^f Department of Surgery & Cancer, Imperial College London, London, UK

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^k Public Health Laboratory Birmingham, National Infection Service, Public Health England, Birmingham, UK

^l School of Clinical & Experimental Medicine, University of Birmingham, Birmingham, UK

^m Department of Interventional Radiology, Guy's & St Thomas' NHS Foundation Trust, London, UK

ⁿ Department of Radiology, School of Medicine, University of Patras, Greece

^o Leeds Institute of Biomedical & Clinical Sciences, University of Leeds, Leeds, UK

^p Department of Microbiology, University Hospital of South Manchester NHS Foundation Trust, Manchester, UK

^q Department of Infectious Diseases, Guy's & St Thomas' NHS Foundation Trust, London, UK

WHAT THIS PAPER ADDS

There is no universally accepted aortic graft infection case definition and clinical approaches to this complex condition differ widely with variable outcomes. Here, the Management of Aortic Graft Infection Collaboration (MAGIC), involving clinicians from several English hospital National Health Service Trusts with large vascular services, propose a formal case definition, derived by a process of multidisciplinary, expert consensus. The definition is readily applied in routine practice and aids early recognition. Importantly and towards development of evidence-based clinical guidelines that are presently lacking, it provides a consistent diagnostic standard, essential for clinical trial design and meaningful comparison between diagnostic and therapeutic strategies.

Figure 1

	CLINICAL / SURGICAL	RADIOLOGY	LABORATORY
MAJOR CRITERIA	<ul style="list-style-type: none"> • Pus (confirmed by microscopy) around graft or in aneurysm sac at surgery • Open wound with exposed graft or communicating sinus • Fistula development e.g. aorto-enteric or aorto-bronchial • Graft insertion in an infected site e.g. fistula, mycotic aneurysm or infected pseudoaneurysm 	<ul style="list-style-type: none"> • Peri-graft fluid on CT scan ≥ 3 months after insertion • Peri-graft gas on CT scan ≥ 7 weeks after insertion • Increase in peri-graft gas volume demonstrated on serial imaging 	<ul style="list-style-type: none"> • Organisms recovered from an explanted graft • Organisms recovered from an intra-operative specimen • Organisms recovered from a percutaneous, radiologically-guided aspirate of peri-graft fluid
MINOR CRITERIA	<ul style="list-style-type: none"> • Localized clinical features of AGI e.g. erythema, warmth, swelling, purulent discharge, pain • Fever $\geq 38^{\circ}\text{C}$ with AGI as most likely cause 	<ul style="list-style-type: none"> • Other e.g. suspicious peri-graft gas/fluid/soft tissue inflammation; aneurysm expansion; pseudoaneurysm formation; focal bowel wall thickening; discitis/osteomyelitis; suspicious metabolic activity on FDG PET/CT; radiolabelled leukocyte uptake 	<ul style="list-style-type: none"> • Blood culture(s) positive and no apparent source except AGI • Abnormally elevated inflammatory markers with AGI as most likely cause e.g. ESR, CRP, white cell count



Aortic graft infection (AGI) is *suspected* in a patient with any isolated major criterion, or minor criteria from two of the three categories: clinical/surgical, radiological, or laboratory. AGI is *diagnosed* in the presence of a single major criterion, plus any other criterion (major or minor) from another category. *Note.* Where microbiological investigations identify potential “contaminant” organisms (e.g., coagulase-negative staphylococci, propionibacteria, corynebacteria, and other skin commensals) a minimum of (i) two intraoperative specimens, (ii) two blood cultures, or (iii) one intraoperative specimen plus one blood culture must be positive with an indistinguishable organism in each sample based on antibiograms or a recognized typing method, e.g. pulsed-field electrophoresis. CT = computed tomography; FDG = fluorodeoxyglucose; PET = positron emission tomography; ESR = erythrocyte sedimentation rate; CRP = C-reactive protein.