P-1136

TAPIR prelimary results: is 6-week antimicrobial therapy effective for early-onset spinal implant infections?

M-P. Fernandez-Gerlinger[1,2], R. Arvieu[3], J-L. Mainardi[1,2], P. Guigui[2,3] and B. Bouyer[2,3]
[1] Unité Mobile de Microbiologie Clinique, Service de Microbiologie, HEGP, Paris, France
[2] Faculté de Médecine Paris Descartes, Université Paris Descartes, Paris, France
[3] Service de Chirurgie Orthopédique et Traumatologie, HEGP, Paris, France

Dr Marie-Poule Fernandez-Gerlinger
Unité Mobile de Microbiologie Clinique, Service de Microbiologie
Hôpital européen Georges Pompidou
20, rue Leblanc, 75015 Paris, France
mariepoulefernandez@yahoo.fr

Introduction and Purpose

Early-onset spinal implant infections (SII) incidence: 2 to 10%[1,2] .
SII is associated with decubitus complications, adverse effects of antibiotic treatments, and increased costs[3] .
In the context of emergence of resistance, short duration of antimicrobial treatment is a key of importance.
Currently SII treatment duration is 12 weeks[2].
The aim of this work is to evaluate the efficacy and cost of a shorter antimicrobial treatment of 6 weeks.

Patients and Methods

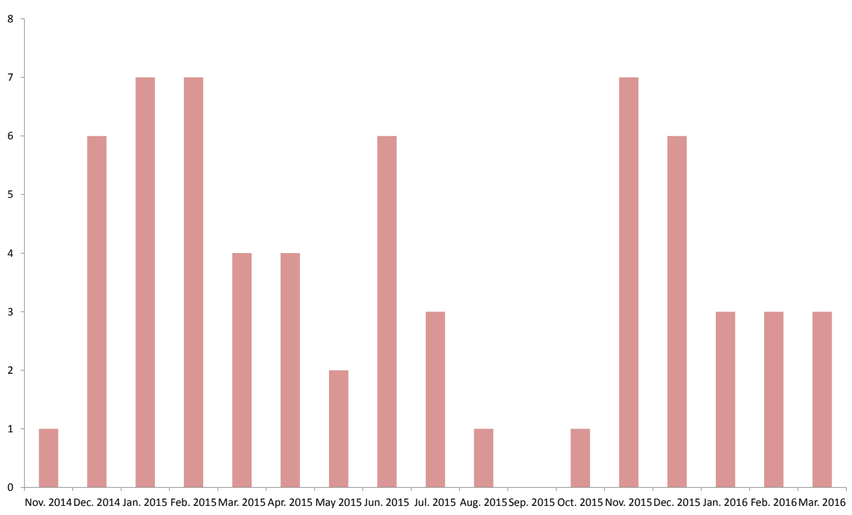
- Ongoing prospective and monocentric study from 11/02/2014, at Hôpital européen Georges Pompidou, Paris, France.
- Inclusion: All patients with SII (clinical and/or biological sepsis) from orthopedic surgery department specialized in spinal surgery.
- Exclusion: patients already treated for SII.
- Surgical managment: surgical debridement.
- Medical care: (i) large-spectrum antimicrobial therapy, (ii) secondarily adapted according to microbiological analyses, administered 10 days intravenously, (iii) followed by an oral course for a total of 6 weeks.
- Parameters as gender, age, SII diagnosis' circumstances, date of onset from the1st intervention, pathogens, antimicrobial initial intravenous and oral treatment and follow-up were collected.
- Success: absence of relapse (same pathogen) after the end of treatment within two years of follow-up.
- A cost's extrapolation for 12 weeks treatment is actually being calculated to compare real short-treatment costs.

Patients' characteristics, N=64

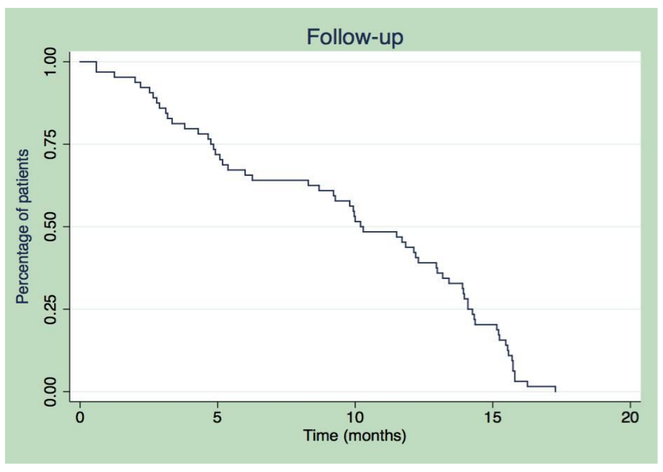
Age (Median in years; 1st IQ -3rd IQ)		**61.9 (53.7-71.4)**
Sexe (Female; %)		27 (42)
Comorbidity (n; %)		43 (67)
Circumstances of SII (n; %)		-
- Sepsis with bacteremia		12 (19)
- Sepsis with only local signs		52 (81)
Time from initial surgery (Median in days; 1st IQ-3rd IQ))		15 (12-23)
Monomicrobial / Polymicrobial (n;%)		47 (73.5) / 17(26.5)
Pathogens from monomicrobial infections (n; % of all monomicrobial)		**Pathogens from polymicrobial infections (n; % of all polymicrobial infections)**
Staphylococcus aureus	24 (51)	3 (17.6)
Meticillin-susceptible	23	3
Meticillin-resistant	1	0
Coagulase-negative *Staphylococcus*	6 (12.8)	5 (29.4)
Enterobacteriacae	8 (17)	12 (70.6)
Pseudomonas aeruginosa	2 (4.2)	3 (17.6)
Propionibacterium acnes	5 (10.7)	0 (0)
Enterococcus faecalis	2 (4.2)	5 (29.4)
Others Streptococcus	0 (0)	5 (29.4)
Anaerobic	0 (0)	5 (29.4)
Bacteroides spp		3 (17.4)
Others		2 (11.7)

Results

Number of patients included per month



Follow-up



Patients' evolution

- All patients received 6 weeks antibiotherapy.
- Patients at 6 months of follow-up : n=41
- Patients at 1 year of follow-up: n=25 : **success**
- Ongoing treatment: n=3
- Reinfection (other pathogen): n=3 (one died due to sepsis)

Discussion and Conclusion

These preliminary results suggest that 6-week antimicrobial therapy seems to be effective for early-onset spinal implant infections. Among all patients,3 have undergone a second surgery during the first 6 weeks due to wound dehiscence showing early reinfection with another bacteria. Main hypothesis is reinfection to Enterobacteriaceae and anaerobic microorganisms from host microbiote, due to decubitus. To date, no patient relapsed. As it is an ongoing prospective study, all results can not be shown yet, particularly cost's extrapolation.

References
(1) Dubory A. et al. Eur Spine J 2015
(2) Dubée V et al, CID 2012
(3) McGirt ML et al. Spine J 2013