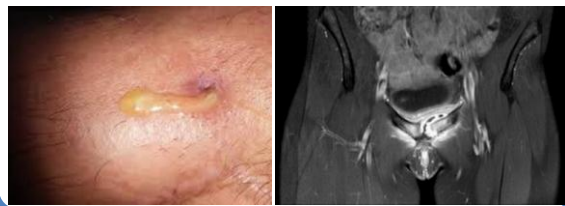


PUBIC OSTEOMYELITIS (PO) : EPIDEMIOLOGY AND FACTORS ASSOCIATED WITH MANAGEMENT FAILURE in two French Reference Centers

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Aim

- Bone and joint infections (BJI) are a public health issue. In 2008, the French government created nine Reference Centers, to facilitate clinical research and improve patient care. Nevertheless, PO is less often reported than knee, hip and tibia BJI. Management is poorly codified as most of the literature is just case reports. Clinical care seems to be heavy especially in postoperative forms. So it requires a multidisciplinary approach.
- Our study aimed to describe the epidemiology and to look for factors associated with management failure, in order to target high-risk patients for more aggressive treatment.



Method

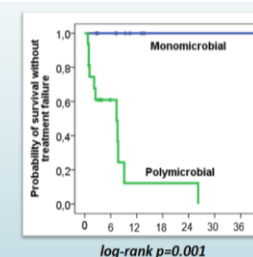
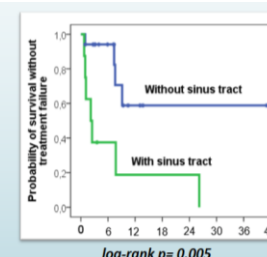
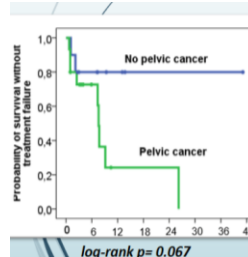
- A retrospective cohort study was performed in two French Reference Centers. We included patients with PO over a thirteen year period, between 2003 and 2016.
- Patients with ischiopubic BJI from pressure bedsores were excluded.
- Treatment failure was defined by clinical (persistence or recurrence of clinical signs) and/or microbiological failure.
- Patients were separated in two groups, according to their outcome : success or failure of initial management.
- Factors associated with treatment failure were determined by *univariate Cox analysis (hazard ratio [HR] and 95% confidence interval calculation)*. Kaplan-Meier curve were compared between groups by log-rank test

Results

25 patients were included (76% males, median age 67 years; 19 men, median ASA score 3) 6 cases had hematogenous origin. 76% of patients had post-operative chronic PO, at 1 month to 11 years after pelvic surgery. 60% had history of pelvic cancer; 48% had received radiotherapy at the infection site. Symptoms were not very specific. Fever was not discriminating, and was not more frequent in hematogenous forms. The major clinical signs were pain and gait disorder.

The success rate was only just more than half. Failure always concerned chronic postoperative forms. Clinical sinus tract was only observed in postoperative forms, and was significantly associated with failure. Other risk factors for failure were : pelvic cancer history, abscess, multi-resistant bacteria, and polymicrobial infection

	Success (n=14)	Failure (n=11)	Total (n=25)	P
Pelvic cancer history	6 (40%)	9 (60%)	15 (60%)	0.089
Clinical sinus tract	1 (12%)	7 (88%)	8 (32%)	0.011
Abscess	9 (45%)	11 (55%)	20 (80%)	0.343
Enterobacteria	3 (25%)	9 (75%)	12 (48%)	0.072
Non-fermenting GNB	0 (0%)	3 (100%)	3 (12%)	0.005
Multi-resistant bacteria	1 (12%)	7 (88%)	8 (32%)	0.116
MSSA	6 (86%)	1 (14%)	7 (28%)	0.169
Methi-R CoNS	2 (33%)	4 (67%)	6 (24%)	0.014
Polymicrobial	5 (31%)	11 (69%)	16 (64%)	0.090



Conclusions

- Our study highlights that the progression of PO depends on the origin:
- Hematogenous cases** were all monomicrobial, due to *S. aureus*, mostly in young patients without comorbidity, especially in athletes. No surgery was required if no abscess or bone sequestrum was found.
 - But **PO is mostly chronic postoperative**, plurimicrobial, sometimes associated with multi-drug resistance, in patients with comorbidities such as pelvic cancer. It frequently requires complex antibiotic therapy, with high risk of relapse. Large bone resection is often required in patients who underwent pelvic radiotherapy. In some cases, if no surgery is possible, antibiotic suppression therapy is an option.
- The question is what happens in the long term for these patients. Studies in larger cohorts could assess the efficacy of more aggressive surgical strategies in patients with high risk of failure.

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