

O493

2-hour Oral Session

Treatment of bone infections

How long is too long? Influence of time on the quality of prosthetic joints sent for sonication

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Background: Background: Periprosthetic joint infection (PJI) is described to be a rare complication in orthopedic implantology. Modern diagnostic procedures like sonication have improved the diagnostic performance. Protocols for culturing of sonication fluids have been adapted by many laboratories. However little is known about the influence of time and other factors of transport on the quality of the sample once it is explanted. We evaluated all results of sonication fluids from patient with surgical revision and samples sent to our laboratory for sonication from 27 different hospitals throughout Germany.

Material/methods: Retrospective analyses of explanted prosthetic joints sent to our laboratory for sonication and culturing of sonication-fluid.

Results: 177 samples of which 80 (45.2%) showed significant bacterial growth were evaluated for their duration of transportation. 60 (33.9%) reached the lab in under 24hours (24h), 57 (32.2%) in under 48hours (48h) and 60 (33.6%) took longer than 48h (>48h) and the rate of relevant positive bacterial culture 32 (24h), 22 (48h) and 26 (>48h) did not differ significantly (p-value: 0.26), respectively. There was no effect of time on recovery of anaerobic bacteria 1 (24h), 3 (42h) and 3 (>48h). The rate of preoperative antibiotic treatment in patients with negative culture results 5 (24h), 11 (48h) and 7 (>48h) did not differ significantly (p-value: 0.393).

Conclusions: Sonication of explanted prosthetic joints can provide strong evidence in correctly diagnosing periprosthetic joint infection. The bacterial biofilm on the explanted prosthetic joint appears to be steady even under less than perfect conditions