

12 Best Papers

[O119] LOW INCIDENCE OF *P. ACNES* ON THE SKIN OF PATIENTS UNDERGOING PRIMARY SHOULDER ARTHROPLASTY

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Aim: Recent studies have indicated that the presence of *P. acnes* in the skin of the shoulder and around the acromion is higher than other body regions like the knee or the hip. The aim of this study was to estimate the presence of *P. acnes* in a real set of primary shoulder arthroplasty, after skin preparation with chlorhexidine and administration of empirical antibiotic therapy.

Method: A prospective observational study involving 63 patients undergoing primary shoulder arthroplasty was designed. In all patients two skin biopsies with a 3 mm dermal punch and one subcutaneous tissue sample after surgical incision were obtained. Skin biopsies were obtained at the most anterior part of the surgical wound in case of superior approach and at the upper part in the deltopectoral approach. All patients underwent preoperative antibiotic prophylaxis with cefazolin 2g ev and skin preparation with 2% chlorhexidine alcoholic tinted before the start of surgery twice. The aerobic cultures were incubated at 37°C for 7 days whereas the anaerobic ones incubated for 14 days.

Results: A total of 63 consecutive patients who underwent shoulder arthroplasty (58 reverse shoulder arthroplasty and 5 anatomical) were analysed. 54 women and 9 men, mean age of 73.94 (SD 6.19). The indication for arthroplasty was a secondary arthropathy cuff injury in 42 cases, primary osteoarthritis in 3, acute fracture in 9 and fracture sequelae in 9. We obtained 189 tissue cultures (126 skin cultures and 63 subcutaneous) and 4 cultures were positive (2.02%) for *P. acnes* in 3 different patients. A first patient (female) had both positive skin cultures, the second patient (male) only had positive the subcutaneous tissue cultures and the third patient had positive also the subcutaneous tissue culture. The first patient underwent anatomical shoulder arthroplasty whereas the second and third patients underwent reverse shoulder arthroplasty. The time to grow was 15 days in first patient and 14 days in the second and third patient (mean 14.5 days).

Conclusions: In a real setting of patients undergoing shoulder arthroplasty using antibiotic prophylaxis and standard preoperative skin preparation with chlorhexidine we found a low rate of positive cultures for *P. acnes* (2.02 %). The higher rate of *P. acnes* positive cultures in skin reported in previous studies may be caused by a different population study group (healthy and younger volunteers without antibiotic prophylaxis) or suboptimal culture technique (use of swabs).