

approach.

As above mentioned, we performed primary neurorraphy in 54 cases.

Results were considered good in 18 cases, satisfactory in 31 and poor in 5 cases.

Microscopic techniques utilizing atraumatic materials combined with an active postoperative recuperatory management allowed us to obtain favorable results in associated injuries of the hand.

In 24 cases the lesions were associated with fractures of the humerus bone, in 4 cases - with fractures of the radial bone. The open lesion of the nerve was present in 6 cases, in 2 of which was lesioned the median nerve, in 1 - was lesioned the median, ulnar and radial nerves.

In 7 cases with irreparable radial nerve palsy we used with successful transfers of muscle tendon. The long term results were followed for 7 patients. Good results were registered in 4 cases, satisfactory 3 cases.

Keywords: injuries nerve, radial nerve palsy, transfers of muscle tendon

INTRAOPERATIVE PREVENTION AND TREATMENT OF PERIPROSTHETIC INFECTION AFTER TOTAL HIP OR KNEE REPLACEMENT



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Steady increase in primary total hip replacement and total knee replacement in Ukraine and worldwide inevitably leads to corresponding increase in absolute incidence of their complications, including periprosthetic infection (PPI). Its frequency has been reported lately from 0.5% to 3.0%. In absolute numbers it means hundreds and thousands of patients per year. Patients with surgical site infection are 60% more likely to stay in an intensive care unit, 5 times more likely to readmit to the hospital, and have a double mortality rate compared to patients without surgical site infection. PPI does not only negate the effect of the surgery, but often puts the limb or even the patient's survival at risk. This necessitates constant search of new or improved ways to prevent and to treat PPI.

The intraoperative measures for prophylaxis of infection after total hip or knee replacement were substantiated, namely the effect of laminar clean air in the operating room. Introducing laminar clean air caused a decrease in total microbial count of the air by 60 times, and a decrease in particular matter $> 0.3 \mu\text{m}$ ($\text{PM}_{0.3}$) count by 7289 times ($p < 0.001$), which was associated with a shortening of mean postoperative hospital stay from 11.10 ± 4.01 to 8.64 ± 2.84 , a decrease in percentage of patients who spent over 14 days in hospital after surgery from 7.3% to 2.2%, and a decrease in infection rate after total hip or knee replacement from 3.3% to 1.1%.

Improved technique of two stage exchange arthroplasty of the hip using the designed antibiotic impregnated cement spacers made intraoperatively with the designed metallic molds was used in 49 patients with periprosthetic infection after total hip replacement. Infection eradication and good functional results were achieved in 89.5%. Mean Harris Hip Score at follow up was 87.18 ± 6.44 .

Improved technique of two stage knee revision using the designed articulating antibiotic impregnated cement spacers was used in 20 patients with infected total knee replacement. Infection control and good functional results were achieved in 84.2%. At follow up, mean Knee Injury and Osteoarthritis Outcome Score was 67.9 ± 6.2 , mean Knee Society Score was 72.8 ± 2.7 .

Keywords: two stage exchange arthroplasty, two stage revision, periprosthetic infection, infected TKA, infected THA, diagnosis, treatment, spacer, intraoperative prophylaxis, laminar clean air.