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[O12] NORMALIZATION OF INFLAMMATORY PARAMETERS BETWEEN TWO STAGE REVISION OF INFECTED PROSTHESIS ARE NOT PREDICTIVE OF SUCCESS – IS IT STILL REASONABLE TO CONTINUE TO WAIT?

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Aim: The aim of this study is to evaluate the value of inflammatory parameters normalization and/or increased time between stages necessary in predicting healing and preventing infection recurrence.

Method: We retrospectively studied all cases of total hip and knee arthroplasty that underwent revision for infection in our institution between 2011 and 2014. We revised the clinical and laboratory information from 55 patients (27 hips: 28 knees) with a mean age of 68 years. The average values before the first stage were 88.6 mm/h (15-134) and 59.1 mg/L (2-279) for the erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) serum respectively. In 10 cases (18.2%) it was not possible to perform the second stage. Moreover, in the other 45 cases of re-arthroplasty, the mean follow-up was 32 months (1 year).

Results: Among the 45 cases in which the two stages were completed, only 3 (6.7%) had recurrence of infection. No significant differences between the two groups regarding the absolute values of ESR and/or CRP before the second stage or variation between the first and second stage of revision were seen. Interestingly, in the group of cases where there was recurrence of infection, the average values of CRP and ESR before the second stage were even lower: 6.0 *vs.* 11.8 mg/L and 19.3 *vs.* 28.7 mm/h respectively. Analysing the temporal influence on the recurrence rate, we find that the 17 cases in which the second stage was performed in less than 90 days, there were no recurrences. The three recurrences occurred in the group of patients with an interval > 90 days (3/28 - 11%).

Conclusions: Knowing when to perform the second stage safely is one of the most difficult decision in two-stage procedures. Tradition mandates waiting for complete normalization of inflammatory parameters sometimes for a long period of time in order to identify cases at risk. However, this approach involves an increased disability time and significant quality of life decrease for patients and lacks adequate scientific support. This study confirms that this traditional approach does not increase the chances of success. The authors argue that there is no advantage in waiting for the normalization of inflammatory parameters before advancing to the second stage time and this practice should be definitively abandoned.