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P0721 Impact of early assessment by infectious diseases specialist and a bundle on management and prognosis of post-surgical prosthetic joint infection

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Background: The prognosis of patients with postoperative joint prosthesis infection (PPJI) can be improved by early diagnosis and appropriate management according to recommendations. We aim to know the impact of the application of specific interventions on diagnostic delay (DD), surgical delay (SD), and on prognosis of PPJI.

Materials/methods: Quasi-experimental study of a multicentre cohort of patients with hip and knee PPJI. Three periods were evaluated: (A) retrospective cohort diagnosed before October-2006; (B) prospective cohort (October-2006 to March-2013) diagnosed after the incorporation of infectious diseases specialist (IDS) in assessment of PJI; (C) prospective cohort diagnosed since March 2013, after a bundle implementation (active surveillance, close monitoring of risk patients, training sessions and care protocols, accessibility) to improve the management of patients undergoing hip or knee arthroplasty. PPJI was defined according to usual criteria.

Outcome variables: DD and SD (defined respectively as time from onset of symptoms to diagnosis, and from diagnosis to first surgical treatment); cure with prosthesis retained. Statistics: a) Comparative analysis: Chi-square and Mann-Whitney U tests; b) Impact of assessment and bundle: Poisson segmental regression (Jointpoint statistic 4.5.0.1), and Cox regression survival analysis (SPSS 19).

Results: 385 PPJI were included (A=84, B=184, C=117). In period (C) patients with comorbidities [C=76 (88%), B=118 (65%), C=52 (62%), p≤0.001] or obesity [C= 33 (38%), B=35 (19%), A=12 (14%), p≤0.001], polymicrobial infection [C=18 (19%), B=17 (9%), A=4 (5%), p=0.006)] and multidrug-resistant pathogen [C=32 (32%), B=35 (22%), A=4 (5.5); p p≤0.001] were more frequent. Also, diagnosis PPJI <1 month [A=4 (5%), B=65 (36%), C=50 (48%), p≤0.001] and cure with prosthesis retained [A=5 (6%), B=53 (29%), C=37 (35%), p=0.001] were more frequent in (C). Trend analysis showed decrease in DD [-12.4 (95%CI -18 to -6.1)] and SD [-10 (95%CI -15 to 1)]. Assessment by an IDS and bundle application were associated with a DD reduction [HR 0.18 (95%CI 0.12-0.25) and 0.53 (95%CI 0.42-0.68), respectively] and SD reduction [HR 0.55 (95%CI 0.41-0.75) and 0.73 (95%CI 0.57-0.92), respectively].

Conclusions: Assessment by an IDS and bundle improved DD and SD of PPJI, and cure with prosthesis retained, which reinforces the role of multidisciplinary and protocolised management of PPJI.