Background

The duration of antimicrobial therapy for patients with post-operative spinal implant infection is an unresolved issue, especially for patients at high risk of relapse (e.g. delayed infection with implant retention or partial exchange). Some experts recommend suppressive (lifelong) antimicrobial therapy for such patients. We hypothesized that F-18 FDG PET/CT could be a decision support for discontinuation of long-term antimicrobial therapy in patients with post-operative spinal implant infection with high-risk of relapse.

Methods

Preliminary prospective study in a referral center to evaluate F-18 FDG PET/CT as a decision support for discontinuation of antimicrobial therapy (if negative) in patients with post-operative spinal implant infection with high-risk of relapse, requiring at least 6 months of antimicrobial therapy. F-18 FDG PET/CT was planned to be performed at 6 months and then, if positive, every 6 months. The antimicrobial therapy was planned to be discontinued in case of negative F-18 FDG PET/CT.

Results

One patient experienced relapse of the spinal infection under antimicrobial therapy (patient n°4, table 1), another patient had positive F-18 FDG PET/CT at month 6, 12 and 18, and was still under antimicrobial therapy (patient n°8, table 1), and another was lost to follow-up after the first F-18 FDG PET/CT (positive, patient n°11, table 1).

Among the 11 remaining patients (79%), F-18 FDG PET/CT was found to be negative at 6 month (5 patients), at 12 months (5 patients) or at 18 months (2 patients), resulting in antimicrobial discontinuation. No clinical signs of relapse were observed after a mean follow up of 8±7 months after treatment disruption.

Conclusions

F-18 FDG PET/CT should be considered as a decision support for discontinuation of long-term antimicrobial therapy in patients with post-operative spinal implant infection with high-risk of relapse.

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