Fever Following Transcatheter Aortic Valve Implantation – Prevalence, Pattern and Rate Attributed to an Infectious Origin

Eran Leshem-Rubinow¹, Sharon Amit², Arie Steinvil¹, Eyal Ben-Assa¹, Yigal Abramowitz¹, Gad Keren¹, Shmuel Banai¹, Ariel Finkelstein¹
¹Cardiology, Tel Aviv Medical Center, Israel
²Infectious Disease Unit, Tel Aviv Medical Center, Israel

Background:
The occurrence of fever following transcatheter aortic valve implantation (TAVI) is common and may result in extensive workup, treatment with broad-spectrum antibiotics and prolonged hospitalization. We aimed to assess the prevalence and nature of fever following TAVI, and analyze whether cases of fever were attributed to infection.

Methods:
An observational retrospective study of the first 141 consecutive patients undergoing TAVI in a 1,200-bed university hospital. All patients received peri-procedural antibiotic prophylaxis with a first or second generation cephalosporin (or vancomycin upon penicillin allergy). Data regarding fever was extracted from medical and nursing records. All microbiologic samples were reviewed and analyzed.

Results:
Fever above 37.8°C occurred in 32 patients (22.7%) in the first 96 hours following TAVI. A single measure above 37.8°C was reported for 19 (59.4%) patients, while 13 (40.6%) patients had at least two measures > 37.8°C. Empiric broad-spectrum antibiotic was initiated in 75% of febrile patients, more commonly when fever was high and in all cases when prolonged. Bacteremia was found in 2 febrile patients, both pathogens isolated were not covered by the standard prophylactic regimen (Enterococcus Fecalis; ESBL-producing Klebsiella Pneumoniae). Fever was not associated with increased 30 days mortality, yet correlated with several post-procedural complications and prolonged hospitalization.

Conclusion:
Fever following TAVI is common, yet rarely associates with microbiologically-proven infection and may actually represent an inflammatory response following valve deployment. Differing antibiotic treatment in the face of a single peri-procedural febrile spike may be considered, yet a protracted course of fever mandates the initiation of broad-spectrum antibiotics.