Percutaneous intervention for removal of intravascular foreign bodies is currently the best treatment option for patients”


Abstract:

INTRODUCTION: Intravascular or catheter embolization of a foreign body, either by fracture or migration, is a rare condition, occurring in approximately 1%. This study is focused on the migration of catheters since they represent the majority of cases of embolization. We present one of the largest published series of removal of foreign bodies with endovascular techniques. The objective of the present study is to demonstrate the different locations where foreign bodies, in most cases catheters, can reach, the technique used to remove them and the affected population.

METHODS: This is a 9 years retrospective study in which we report the cases of foreign bodies removal performed by an endovascular approach between 2009 and 2017 in our institution. It includes 53 patients: 28 women and 25 men. The average age was 58 years (ranging from 15 to 87 years). The catheters were implanted by a heterogeneous group of professionals.

RESULTS: Thirty three totally implantable catheters (Implantofix ®), sixteen peripheral inserted central catheter, three Guide Wires, one angioplasty balloon and one Amplazer vascular plug were extracted. The most common sites for the lodging of one of the ends of
the intravascular foreign bodies were the right atrium (35.8%) the superior vena cava (11.3%) and the right ventricle (11.3%). In 98.1% of the cases, only one venous access was used for extraction of foreign bodies, and in 96.2% of the cases the right femoral access was used. The loop-snare technique was used in 45 cases (84.9%) and in 8 cases a basket was the option. The most common cause of catheter embolization was the disconnection between the catheter and the port during the surgery for its removal, which occurred in 55.1% of the cases. Fracture of totally implantable catheters occurred in 12.2%. The fracture of a peripheral inserted central catheter represents 32.7% of cases of embolization. Atrial fibrillation, occurred in 8 cases. The mortality rate during the procedure was zero. Technical performance was 100% successful.

CONCLUSION: Percutaneous intervention for removal of intravascular foreign bodies is currently the best treatment option for patients. It is a minimally invasive, procedure, with low complication rates. Embolised material can be quite safely retrieved, and presents an attractive alternative to surgical removal of these devices. However, this work should serve as a consideration about the safety of the removal of catheters as well as their quality in order to reduce this type of complications.

Reference: