Left ventricular assist device driveline infection – what is next?

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Introduction: Heart failure is one of the main causes of mortality and morbidity in population. The invention of Mechanical left ventricular assist device (LVAD) revolutionized the treatment of advanced heart failure. Per year, there are about 10 000 heart transplantations. These needs are several times higher, which is why the LVAD was invited. How LVAD carries its risks, that's why It is threatened in carefully selected population. Despite LVAD device improvements, infection remains substantial risk. Driveline infections are the most common type of LVAD infections because driveline exit site creates a conduit for entry of bacteria. LVAD driveline infection is very difficult to treat and usually progresses to a chronic form. Depending on infection degree, treatment may include local wound care, antibiotics, or surgery.[1,2]

Case report: We describe 50-year-old male patient with LVAD who was hospitalized because of driveline infection, sepsis caused by MRSA and pleural empyema. From available medical documentation it was evident that patient did not uphold recommended instructions. At admission he was pale, tachypneic and diaphoretic. During his stay at Coronary Care Unit, he was intubated and mechanically ventilated due to pulmonary edema and pleural empyema. In consultation with thoracic surgeon, we decided to perform thoracotomy because conservative approach was ineffective. Patient was accepted for national urgent heart transplantation list because of relapsing infections.

Conclusion: In this case report it's important to illuminate the nursing role as a part of multidisciplinary care. One of the most important tasks of a nurse is observing the general condition of the patient and identifying pathological changes. Patient education is fundamental for good outcomes but in this case, education was limited because patient was unaware of his critical condition and receptive instructions.

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LITERATURE

1. Topkara VK, Kondareddy S, Malik F, Wang IW, Mann DL, Ewald GA, et al. Infectious complications in patients with left ventricular assist device: etiology and outcomes in the continuous-flow era. Ann Thorac Surg. 2010 Oct;90(4):1270-7. https://doi.org/10.1016/j.athoracsur.2010.04.093
2. Leuck AM. Left ventricular assist device driveline infections: recent advances and future goals. J Thorac Dis. 2015 Dec;7(12):2151-7. https://doi.org/10.3978/j.issn.2072-1439.2015.11.06