This study aims to investigate the incidence and risk factors for the development of TIVAD-associated candidaemia and to assess the rate of TIVAD-related complications in CF patients" McCarthy et al (2017).

Abstract:

BACKGROUND: Candidaemia is an important nosocomial infection, seen frequently in immunocompromised and critically ill patients and increasingly recognised in cystic fibrosis (CF) patients with totally implantable venous access devices (TIVADs). This study aims to investigate the incidence and risk factors for the development of TIVAD-associated candidaemia and to assess the rate of TIVAD-related complications in CF patients.

METHODS: A 10-year retrospective study was carried out on adult CF patients attending a single centre. Complications were recorded including the incidence of candidaemia and correlated to clinical parameters. Complication rates were calculated based on incidence per 1000 catheter days. Statistical analysis was performed using Mann-Whitney U test and Fisher's exact test.

RESULTS: Fourteen cases of candidaemia were observed in the CF cohort, primarily caused by Candida parapsilosis and Candida albicans. Candidaemia was associated with lower FEV1 ($p = 0.0117$) and higher frequency of pulmonary exacerbation ($p < 0.0001$). A TIVAD complication rate of 0.337/1000 catheter days was observed in the CF cohort. Complications included venous thrombosis, stenosis, and port extrusion; complications were independently associated with more frequent pulmonary exacerbations ($p = 0.04$).

CONCLUSIONS: TIVAD complications are observed more commonly in those with lower FEV1 and frequent pulmonary exacerbations, suggesting that candidaemia may be related to antibiotic use and furthermore can occur following invasive procedures causing translocation of fungal species allowing transformation from colonisation to pathogenic infection.

Reference:

McCarthy, C., O'Carroll, O., O'Brien, M.E., McEnery, T., Franciosi, A., Gunaratnam, C. and McElvaney, N.G. (2017) Risk factors for totally implantable venous access device-associated complications in cystic fibrosis. Irish Journal of Medical Science. August 15th. .

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