

CANDIDA SP. CARRIAGE IN HEMODIALYSIS PATIENTS: PREVALENCE AND MEDIUM TERM OUTCOMES

Iryna Shifris, Iryna Dudar, Adele Rudenko and Viktor Krot

Efferent Technology Department, Institute of Nephrology NAMS, Kyiv, Ukraine

INTRODUCTION AND OBJECTIVES

Candidiasis is a common opportunistic infection in immunocompromised patients. Infection is a major cause of morbidity and mortality in patients with end stage renal failure (ESRF). ESRF patients on hemodialysis (HD) have a high frequency of nutritional, immunological, and psychological disorders as well disorders from invasive procedures and antimicrobial treatments, which are known to contribute to the presence of a higher number of yeast colonies.

The aim was to study the localization and prevalence of fungal colonization with subsequent evaluation of medium term outcomes in HD patients.

METHODS:

This study was an observational, prospective, epidemiological tracking, performed in 24 months by microbiological and clinical examination. The study included 79 patients with the end stage renal failure on HD from dialysis single center of Ukraine. 45 (57%) patients were men, median age was 48.4 (range 23 - 77 years) and the most common cause of ESRF was glomerulonephritis (47 patients, 59.5%); diabetes mellitus have 7 (8.9 %) persons. Arteriovenous fistulas (AVF) were used as vascular access in 100% of the patients. The microorganisms (fungi) isolation was carried by seeding swabs from the nose and pharynx out in conventional culture media. During follow-up, all bacterial infections, hospital admissions and all cause mortality were documented and analyzed.

RESULTS:

33 patients had positive swab results. The prevalence of colonization with *Candida* species was 41.8%. Pharyngeal colonization of *Candida* was found in 29 (87.9%) and nasal in 4 (12.1%) patients. Of the swab positive patients, 63.64% having glomerulonephritis and 12.12% - diabetes ($p = 0.537$). 75.8% of this group had at least one hospital admission during the follow up period (32 episodes). Over a third (40.62%) of admissions were related to infections (7 cases - respiratory infection, 3 - vascular access, 2 - wet gangrene, 1 - osteomyelitis; Figure 1).

During the observation 19 bacterial infections episodes among all patients were detected. Patients with a history of *Candida* colonization ($n = 33$) showed a higher rate cases (13 vs. 6, $p = 0.006879$; Figure 2) of infection complication than without it ($n = 46$).

18.2% patients of *Candida* carriage died within 24 months of follow up.

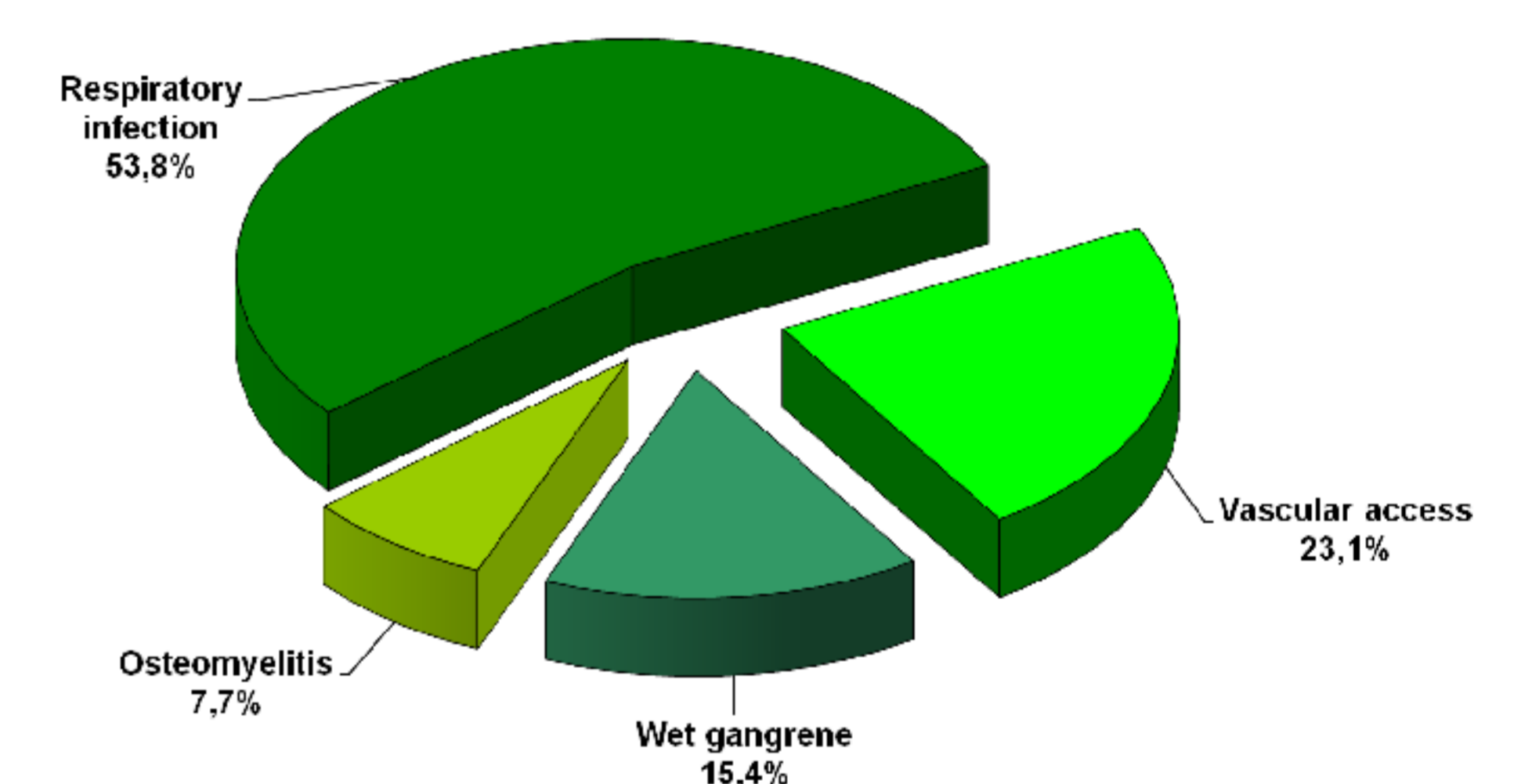


Figure 1. Infectious complication in dialysis patients

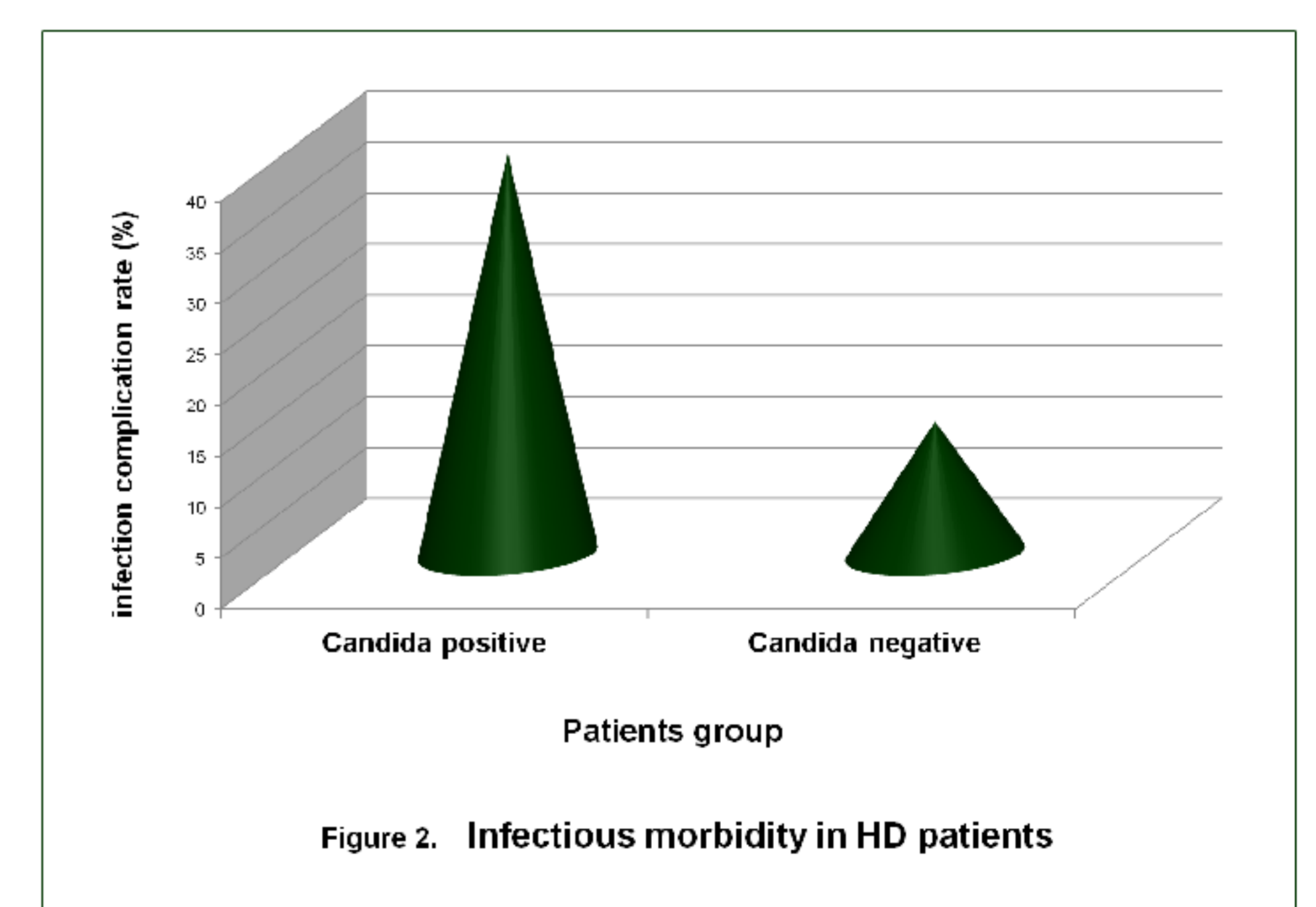


Figure 2. Infectious morbidity in HD patients

CONCLUSIONS:

The results confirm the available data on the higher rate of *Candida* carriage among HD patients. There is an association between *Candida* colonization and poor clinical prognosis in HD population. Diabetes mellitus in this study was ruled out as risk factor for *Candida* colonization.

