

TITLE: EVALUATION OF THE PRESENCE OF FUNGI IN A HEMODIALYSIS PROCESS

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ABSTRACT

Hemodialysis is a procedure used to treat patients with renal impairment to normalize the electrolyte balance and remove toxic substances from the body through a dialysis solution composed mainly of water. According to RDC No. 154, dated June 15, 2004 from the National Health Agency (ANVISA), water for dialysis should be treated in a way that presents a quality standard at all stages. The literature is vast in pointing out the proliferation of microorganisms in waters and components used during the hemodialysis procedure, however, the Brazilian legislation does not have any recommendations regarding the evaluation of fungi, and the number of publications and reports of fungal infections increase progressively. Thus, this work aimed to evaluate the presence of fungi in water used in hemodialysis services. Samples from the hemodialysis treatment units were randomly selected and analyzed for heterotrophic bacteria, total coliforms and endotoxins according to DRC 11/2014. Samples were isolated using two techniques: Pour Plate and Spread Plate. These were cultivated in Petri dishes with Potato Agar (100 µl), the plates were protected with parafilm and conditioned at room temperature for 30 days. Fungi growth was monitored daily. Fungal growth was observed in 16 plates, with growth of the first fungus after 11 days of incubation. Fifty plates were analyzed. Both techniques of isolation presented growth, being that "spread plate" presented better result. The time of growth occurred in a varied way where the first morphologies appeared in the peripheral regions of the plates and after extension of the incubation period the fungi occupied the plaque completely. The results of the analyzes confirmed the need to monitor fungi in dialysis water and the development of research aimed at the investigation of pathogenic fungi and the association of microorganisms, in order to guarantee the adequacy of the treatment system in order to eliminate risk factors and provide safety to patients on hemodialysis.

Keywords: Water quality; Hemodialysis; fungi; microorganisms.

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