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RISK OF HOSPITAL-ACQUIRED LEGIONELLOSIS FROM MICROBIAL CONTAMINATION OF POTABLE WATER AT A BONE MARROW TRANSPLANTUNIT IN A CZECH UNIVERSITY HOSPITAL

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The investigated of the potable water treatment room and the sanitary facilities of patient boxes was held. The potable water treatment room had three collection points (ball valves), while in the sanitary facilities potable water was collected from the tap, shower, and the flush tank. A swab was taken from the inside wall of the toilet tank. The samples and swabs of the flush tank water were Legionella pneumophila sg 1 and sg 6A positive. Disinfection of flush tanks with chlorine agents was recommended.

Keywords: hematopoietic stem cell transplantation, *Legionella* spp., potable water, terminal filters.

Introduction

Legionella spp. is Gram-negative coccobacilli that are ubiquitous in aquatic and moist environments (soil), in association with amoeba, other protozoa, and in biofilm [1]. They can be isolated from water with temperatures ranging from 6 to 60 °C. Growth occurs optimally in the temperature range of 25 to 42 °C, especially when the water is stagnant. The *Legionellaceae* family consists of a single genus *Legionella*, which contains 52 species, 20 of which are considered to be human pathogens. Subspecies belong to over 70 serogroups [2]. In humans *Legionella* spp. can cause Pontiac fever (self-limited flu-like illness) and Legionnaire's disease (severe pneumonia with multisystem dysfunction). Legionnaire's disease (LD) occurs as sporadic cases or as outbreaks and is either community or hospital-acquired [3]. Hematologic malignancies and immunodeficiency are typical risk factors for legionellosis. In most instances, *Legionella* spp. is transmitted to humans by inhalation of aerosol containing

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Czech Republic has likewise noted an upward trend. While in 2010 the Czech Republic reported a total of 43 cases of legionellosis, between the years 2001 and 2010 there was a total of 163 cases of legionellosis recorded [8].

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