In 2005 the Centers for Disease Control & Prevention (CDC) Division of TB published Guidelines for Preventing the Transmission of Mycobacterium tuberculosis in Health-Care Settings (7). These outline tiers of strategies for preventing transmission of TB within various care settings as illustrated in Figure 4 (see powerpoint slides). Precautions of care of a patient with TB who needs surgery are summarized in Table 1.

TB Treatment Facilities: These Guidelines provide the following recommendations for TB Treatment Facilities such as those providing community TB care. The Guidelines state that TB transmission control in TB treatment facilities begins with uninfected healthcare workers and healthcare facilities in addition to settings where environmental controls (EC) are limited or not available. Strategies for TB transmission control in TB treatment facilities include:

- Engineering Controls – The Thoracic Surgeon was in her 7th month of pregnancy
- None of the 12 personnel in the OR were wearing a N95 respirator.
- CXR = nodule in right lower lobe suspicious for lung cancer
- IcoRoom Portable Anteroom System
- The PAS-HEPA may also be applied to other settings such as a community-based TB treatment facility or even to expedite discharge from an acute care hospital to the patient’s home during DOTS regimen.

Table of Presentation: Novel Mobile Containment System For Preventing Transmission of M. tuberculosis in Healthcare Facilities and the Community: Insights from a Pilot Investigation – Taking Environmental Control to the Patient.

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Abstract

Introduction

Analysis of epidemiologic trends in the U.S. revealed:

• Following the resurgence of TB in the mid-1980s in the U.S. there has been a 14 year decline in the number of cases of TB through 2006. Since 2002, however the rate of decline has slowed (see Figure 1).

• The proportion of TB cases among foreign-born persons has increased each year since 1993. (see Figure 2)

• Support for public health programs to identify and treat TB in the community is declining commensurate with public policy decisions affected by the drop in incidence after the peak.

Therefore despite this decline in the U.S., occupational exposure of healthcare personnel to TB remains not only a problem in the U.S. but likely worldwide. An unexpected encounter of a case of active TB during lung surgery at a community based facility in the U.S. is a reminder of the potential occupational hazard associated with the size of Mycobacterium tuberculosis in an operating room (OR).

There is prior published evidence that TB can be transmitted to perioperative healthcare personnel (3).