

talized one floor below the nursery and was known to wander the halls, although the patient's exact movements are unknown. Air movement between the nursery and the floor below was not able to be determined, because the state of the ventilation system during the period of exposure was unknown. A third possibility is that another healthcare worker or visitor to the nursery had undiagnosed TB.

The authors note that the possibility exists for exposure to unrecognized active TB in a nursery. They point out that infection and active disease in the infants developed after a relatively short period of exposure. These findings underscore the need for adherence to published infection control guidelines in healthcare settings, including the monitoring of staff in the nursery.

FROM: Niviv B, Nicholas P, Gayer M, Frieden TR, Fujiwara PI. A continuing outbreak of multidrug-resistant tuberculosis, with transmission in a hospital nursery. *Clin Infect Dis* 1998;26:303-307.

### Cost-Effectiveness of Medical Care in an Acute- or Long-Term-Care Setting

Acute-care hospitals in Quebec, Canada, are required to reserve 10% of their beds for patients receiving long-term care while awaiting transfer to a long-term-care facility. It is widely believed that it is more costly to provide long-term care in an acute-care hospital than in one dedicated to long-term care.

Friedman and Kalant recently reported a study to compare the quality and cost of long-term care in an acute-care hospital and in a long-term-care facility. A concurrent cross-sectional study was conducted of 101 patients at the acute-care hospital and 102 patients at the long-term-care hospital. The two groups were matched closely in terms of age, gender, nursing-care requirements, and major diagnoses. Several indicators were used to assess the quality of care: the number of medical specialist consultations, drugs, laboratory tests and radiographic examinations; the number of adverse events (reportable incidents, nosocomial infections, and pressure ulcers); and indicators of nutritional status. Costs were determined for nursing personnel, drugs, and laboratory tests. A longitudinal study was conducted of 45 patients who had been receiving long-term care at the acute-care hospital for at least 5 months and then were transferred to the long-term-care facility where they remained for at least 6 months. For each patient, the number of adverse events, the number of medical specialist consultations, and the changes in activities-of-daily-living status were assessed at the two institutions.

No differences in the number of adverse events were observed; however, patients at the acute-care hospital received more drugs (5.9 vs 4.7/patient,  $P < .01$ ) and underwent more laboratory tests (299 vs 79 laboratory units/year/patient,  $P < .001$ ) and radiographic examinations (64 vs 46/1,000 patient weeks,  $P < .05$ ). At both institutions, 36% of the patients showed evidence of protein-calorie undernutrition; 28% at the acute-care hospital and 27% at the long-term-care hospital had low serum iron and low

transferrin saturation, compatible with iron deficiency. The longitudinal study showed that there were more consultations (61 vs 37/1,000 patient weeks,  $P < .02$ ) and fewer pressure ulcers (18 vs 34/1,000 patient weeks,  $P < .05$ ) at the acute-care hospital than at the long-term-care facility; other measures did not differ. The cost per patient year was \$7,580 higher at the acute-care hospital, attributable to the higher cost of drugs (\$42), the greater use of laboratory tests (\$189), and, primarily, the higher cost of nursing (\$7,349). For patients requiring 3 nursing hours per day, the acute-care hospital provided more hours than the long-term-care facility (3.59 vs 3.03 hours), with a higher percentage of hours from professional nurses rather than auxiliary nurses or nursing aides (62% vs 28%). The nurse staffing pattern at the acute-care hospital was characteristic of university-affiliated acute-care hospitals.

The long-term care provided in the acute-care hospital involved a more interventionist medical approach and greater use of professional nurses (at a significantly higher cost) but without any overall difference in the quality of care.

FROM: Friedman R, Kalant N. Comparison of long-term care in an acute care institution and in a long-term care institution. *Can Med Assoc J* 1998;159:1107-1113.

### Hepatitis C and G Virus in Hemodialysis Patients in Syria

High prevalences of hepatitis C and G viruses (HCV and HGV) have been reported among hemodialysis patients, with substantial heterogeneity of HCV genotypes throughout the world. Investigators from the Division of Gastroenterology, Mayo Clinic in Rochester, studied HCV prevalence, clinical significance, genotype distribution, and HGV coinfection in hemodialysis patients from Syria. Ninety (75%) of 120 screened patients were HCV-antibody-positive. Forty-nine (87.5%) of 56 HCV antibody-positive patients had HCV RNA detected by the polymerase chain reaction. HCV genotyping was possible in 37 of 49 patients (76%). HCV genotype distribution was genotype 1a, 7 (19%); genotype 1b, 10 (27%); genotype 4a, 11 (30%); and unmatched sequences, 9 (24%).

Phylogenetic analysis of unmatched sequences indicated that they represent two distinct and novel subtypes of HCV genotype 4. Hepatitis G virus RNA was detected in 29 (59%) of the HCV RNA-positive patients. No differences were identified between patients infected with HCV alone and those coinfecting with HGV. These data demonstrate that HCV infection is common in this population with a genotype distribution predominantly made up of types 1 and 4. Coinfection with HGV had no effect on the outcome of HCV infection.

FROM: Abdulkarim AS, Zein NN, Germer JJ, Kolbert CP, Kabbani L, Krajnik KL, et al. Hepatitis C virus genotypes and hepatitis G virus in hemodialysis patients from Syria: identification of two novel hepatitis C virus subtypes. *Am J Trop Med Hyg* 1998;59:571-576.