

bone. In the present case, the ossification centre developed on the right side (arrow mark) but ossification did not progress beyond that. On the left side ossification centre did not develop at all thereby giving picture of agenesis. Absence of neurological symptoms could have been because of shielding effect of dura(3). A thorough screening of the literature suggests paucity of such a case.

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Fumigation of Neonatal Nursery: How Effective in Reducing the Environmental Pathogens ?

The inanimate environment of a neonatal unit is full of pathogenic bacteria which may cause nosocomial infections in upto 12

to 25% of patients(1). The present study carried out at the Departments of Pediatrics and Microbiology, Dr. S.N. Medical College, Jodhpur aims to find out the extent of contamination of the floor and air of a neonatal unit and effect of cleaning and fumigation on these pathogens. The study was carried out in two parts, first was after a routine cleaning but before fumigation and second part just after fumigation.

The bacteriological air sampling was done by Agar Sampler Plates (ASP) using 15 cm diameter settle plates of nutrient agar and exposed for 8 hours to the air. The method depends on the deposition of bacteria carrying particles settling on sq m of medium per minute = number of such particles per 0.3 cubic meter space(2).

The floor of neonatal nursery was sampled by Rhodac plate method where 2×2 cm glass plates with overlaid nutrient agar were used. These plates were pressed firmly over the floor under study and later they were incubated at 37°C for 24 h and colony count was done(3). The floor was cleaned with 4% phenol solution kept in a clean bucket (10 litre). A wet mop cloth was used and after cleaning a part of neonatal unit, the cloth was rinsed and cleaned in the bucket and reused till 100 sq ft of floor was covered and then the phenol solution was prepared again.

The fumigation of neonatal unit was done using formalin (34 to 38%) vaporizer method using 1 litre per 1000 cubic feet area. A basin of liquid ammonia was used to neutralize the excess formaldehyde and paraformaldehyde in the unit(4).

The results of bacteriological air study showed that the counts initially ranged from 218 to 426 bacteria/cu m but were reduced to 32 to 64 bacteria/cu m after fumigation achieving a reduction of 78 to 92%. The hospital air shows levels of

contamination in the range of 45 to 200 bacteria/cu m but no standards of air purity have been laid down for neonatal units. The standards of air purity for operating theatres are less than 35 bacteria/cu m of air(5). We can achieve these standards by periodic fumigation.

The bacterial floor counts done before fumigation but after cleaning ranged from 320 to 388 bacteria/sq cm. Fumigation could only reduce them to 118 to 136 bacteria/sq cm, a reduction of 57 to 66%. Thus fumigation is not an effective method of reducing floor bacteria. The American Public Health Association has laid down standards and graded floor cleanliness. If there are 0-25 bacteria/sq cm, cleaning is good, with 25-50 bacteria sq/cm cleaning is fair and if there are more than 50 bacteria per sq cm of floor, the cleaning is poor. The study clearly shows that floor cleaning is not proper and even fumigation can not effectively clean the floors.

Disinfection of air is now rarely considered necessary in hospitals of Western countries but this study has shown that it is needed in India as the air counts are high and these can be reduced after fumigation. The use of cap and mask should be obligatory for all and surveillance of environment can help us reduce the incidence of cross infection.

This is a preliminary study on a subject of daily use and has its limitations but can act as a baseline work for further studies.

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Complete Covered Anus in Female Neonates

Non-communicating, low anorectal malformations in female neonates are exceedingly rare(1). We describe two patients with completely occluded anus of the covered type, who presented in the early neonatal period with features of intestinal obstruction.

A 3-day-old full term female baby, weighing 2.5 kg was detected to have absence of anal opening, inability to pass meconium and gross abdominal distention. There were no associated congenital anomalies. A small dimple over the normal anal site used to bulge during crying and straining. The vestibule did not show any