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عنوان البحث:-

Neonatal pneumoperitoneum, a critical assessment of its causes and subsequent management in kauh, jordan.

Abstract

Background: In most of the published literature, the management of neonatal pneumoperitoneum revolves around necrotizing enterocolitis (NEC). Although complicated NEC remains the major cause of pneumoperitoneum in a neonate, several other causes leading to free air in the peritoneal cavity are identified. A number of reported cases have appeared describing pneumoperitoneum in a neonate due to rupture of hollow viscus, but there have been few collective reviews on the subject. The present study reflects the experience of the author with neonates dealt with in the neonatal unit (NICU) of KAUH, JORDAN. The various causes of pneumoperitoneum in a newborn, their management, and subsequent outcome are described.

Material and methods: The study was conducted in the neonatal unit, Dept. of Surgery, KAUH. All neonates with a diagnosis of pneumoperitoneum were analyzed over a period of Five years (Jan.2007-Jan.2012). Free air in the peritoneal cavity was confirmed by erect abdominal x-rays or lateral decubitus films in certain cases. The data sheets were analyzed regarding age of presentation, cause of bowel perforation, management offered and subsequent outcome.

Results: Over five years period of the study, 37 cases with pneumoperitoneum were diagnosed. There were 23(62.2%) males and 14(37.8%) females. The age at presentation ranged from six hours after delivery to 21 days. Necrotizing Enterocolitis (NEC) remained the major cause of pneumoperitoneum in the newborn 16(43.2%). However in 21(56.7%) cases the cause was not related to NEC, the majority were small bowel and to a lesser extent large bowel perforations. Four patients with pneumoperitoneum were without bowel perforation, three of them were on the ventilator. The treatment was individualized according to the presentation. Most of NEC related perforations were managed by peritoneal drains; laparotomy was done for the rest of the patients. Overall 11(29.7%) patients were expired; most of them were of the premature very low birth weight NEC and those of delayed presentation.

Conclusions: Pneumoperitoneum in neonates remain a surgical emergency and the outcome can be lethal if the problem is not diagnosed early. NEC remain the major cause, there are several other important causes of gastrointestinal perforations leading to neonatal pneumoperitoneum. The management should be individualized in these patients and the outcome largely depends on the early recognition of the condition, birth weight and other factors.