



DUODENAL PERFORATION IN NEWBORN- A RARE CASE REPORT WITH REVIEW

Paediatric Surgery

Dr. Ashoka Nand Thakur*

M.B.B.S, M.S., M.Ch. (Pediatric surgery), Associate Professor, (Pediatric Surgery Unit), Department of General Surgery, Himalaya Medical College & Hospital, Chiksi, Paliganj, Patna - 8001110 *Corresponding Author

Dr. Rahul Kumar

Senior Resident, Department of Paediatrics, Himalaya Medical College & Hospital, Chiksi, Paliganj, Patna – 8001110

Dr. Basant kumar Pandey

Senior Resident, Department of Paediatrics, Himalaya Medical College & Hospital, Chiksi, Paliganj, Patna – 8001110

ABSTRACT

Neonatal duodenal perforation is very rare and life threatening condition. [1-2] The diagnosis is very difficult as it mimics any other gastro-intestinal tract perforation. Baby usually presents with abdominal distension, bilious vomiting with or without shock. Duodenal perforation in newborn can be due to duodenal ulcer, atresia or stenosis, sepsis, necrotizing enterocolitis or trauma. [3] Diagnosis of gut perforation can be made by x-ray abdomen erect posture and ultrasonography of whole abdomen. Gas under diaphragm in X-ray and free intraperitoneal gas in abdominal ultrasonography is classical of gut perforation. Duodenal perforation can be diagnosed only after exploratory laparotomy and proper mobilization of duodenum. Early shock management and urgent exploratory laparotomy and primary repair of perforation can save the baby. Most of the perforation occurs in first part of duodenum (duodenal bulb) due to peptic ulcer. We are reporting a newborn with duodenal perforation in second part of duodenum which is extremely rare.

KEYWORDS

INTRODUCTION

Duodenal perforation in newborn is very rare. Baby usually presents with abdominal distension, vomiting, respiratory distress with or without shock. [4] It may be due to perforation of duodenal ulcer, distal duodenal obstruction like duodenal atresia or stenosis, necrotizing enterocolitis, sepsis etc. and very rarely trauma due to nasogastric tube. As this is a life threatening condition so exploratory laparotomy should be done as early as possible.

CASE REPORT

Three days old newborn baby came to us with severe abdominal distension and shock. As condition of baby was very critical so baby was shifted to ventilatory support. Bedside routine examination of blood along with X-ray abdomen and ultrasonography were done. His hemoglobin was 8.5 gm% and total leucocytes count was 21,500/cmm with dominance of premature neutrophils. X-Ray abdomen erect posture showed gas under diaphragm. After stabilizing the baby we performed exploratory laparotomy. Right upper transverse incision was taken. There was free gas inside the peritoneal cavity. Whole intestine was checked for perforation but we did not find any perforation site. Next, we planned to examine duodenum. So complete Kocherization was done and lesser sac was also opened. Then air was infiltrated through nasogastric tube to stomach and stomach was pressed with fingers to push air distally and simultaneously distal duodenum was closed by other hand. We identify bubbles at second part of duodenum on medial aspect just proximal to pancreas. [Figure 1] This is the rarest site of duodenal perforation as it usually occurs in first part (duodenal bulb). Margins of perforation site were freshened and were repaired with vicryl 5-0. Omental patch was also used to cover repair site. Great care was taken to avoid damage of pancreatic duct during repair. Small corrugated drain was also kept in abdominal cavity. Baby was kept on ventilatory support for 3 days. Feeding was started on postoperative day 6. Baby was discharged on 10th postoperative day.

DISCUSSION

Duodenal perforation in newborn is very rare and life threatening condition. It usually occurs in first part of duodenum (duodenal bulb). The most common cause is peptic ulcer due to birth asphyxia, prematurity, sepsis etc. Other causes are distal duodenal obstruction like duodenal atresia or stenosis, sepsis, necrotizing enterocolitis very rarely trauma due to forceful insertion of nasogastric tube. Sometimes spontaneous perforation can also occur in newborn. In our case duodenal perforation was in second part of duodenum on medial side which is rarest site of perforation. There was blood clot in surrounding area indicating traumatic cause but it was not sure. Bedside X-ray abdomen erect posture is very useful for diagnosis of intestinal perforation. [5] The free air under diaphragm in x ray is diagnostic of

intestinal perforation. As peritonitis is a very serious condition baby should be stabilized first. Then laparotomy should be planned accordingly. Duodenal perforation can only be diagnosed during laparotomy. To locate duodenal perforation complete Kocherization of duodenum is necessary. Initially whole intestine should be checked for any perforation. Then duodenum should be observed carefully. Most of duodenal perforation in newborn occurs in duodenal bulb but in our case it was in second part of duodenum along medial wall just proximal to pancreas. [Figure 2] The cause was not clear as baby was on ventilatory support with history of birth asphyxia. Ventilatory air pressure can also lead to perforation of duodenum especially in baby with birth asphyxia. [6]

CONCLUSION

Perforation in second part of duodenum in newborn is extremely rare and life threatening condition. Immediate resuscitation with exploratory laparotomy can save the life of baby.



Figure-1 : Bubbles at perforation site after pressing air from stomach



Figure -2 : Perforation at second part of duodenum just proximal to pancreas

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