

## Giant Pneumoperitoneum in a Newborn

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### Introduction

About 115 cases of gastric perforation have been reported in the world literature from 1943 to 2000 [1]. Iatrogenic trauma by vigorous nasogastric or gastric tube placement has been described [2]. Trauma due to stiff nasogastric tube causing gastric perforation in already compromised neonates is not uncommon entity and a high index of suspicion can clinch early diagnosis.

### Keywords

Atresia of esophagus, Pneumoperitoneum, X-ray, Exsufflation

### Observation

This is an isolated case from a neonatology unit in a desert hospital. A 2-day-old neonate presented with significant abdominal distension. The general state of the newborn was average given the respiratory distress whose etiology would be the establishment of the nasogastric tube.

Questioning the neonatologist, the pregnancy completed at term without special monitoring and without significant complications. Absence of family antecedents of pulmonary or abdominal malformations. The birth weight was 2.5 kg.

On clinical examination, the abdomen was significantly distended with absent bowel sounds. Traumatic causes secondary to feeding tube placement or vigorous respiratory resuscitation are described. [3, 4].

Rigler's sign was first described in 1941 by L.G Rigler as a new radiological sign for recognizing free air in the peritoneal cavity on supine radiograph [5].

X-ray of abdomen regains giant pneumoperitoneum taking all the quadrants of the abdomen and exerting a mass effect on the viscera which are shriveled in the middle. Regarding laboratory tests apart from a decrease in blood gases nothing is noted. Echography has not been practiced.

The newborn has had pneumoperitoneal drainage with a catheter. Aspiration of the nasopharyngeal tube for four days.

### Peritoneal drainage (PD)

Placement of a 22G catheter at the left iliac fossa and exsufflation. The drain brings back air and some serum fluid.

Laparotomy could not be performed in the newborn, possibly with respiratory insufficiency and pulmonary condensation.

### Post-operative follow-up

After drainage and peritoneal exsufflation the patient is kept in neonatal resuscitation. The drain was held in place for three days. The nasal gastric tube maintained in slow suction for five days. Parenteral nutrition has been installed. Resumption of feeding on the sixth day. Patient coming out the next day.

### Follow-up in consultation for one month

Good evolution. After the patient lost sight.



**Figure 1:** Aspect of giant pneumoperitoneum : X-ray of patient abdomen (Hospital of Tindouf Algeria).

### Discussion

Recently, PD has been used in very sick neonates with perforation caused by NEC, for whom general anesthesia and laparotomy are risky. PD may provide temporary stabilization and recovery, but most of these infants require subsequent laparotomy [6, 7].

About our case the treatment was peritoneal drainage and the follow up was good. The newborn is still alive one month after PD. Giant peritoneum was remains a relative appreciation.

### Conclusion

Iatrogenic perforation of the stomach is a rare condition; the treatment is surgical in most cases. In case of impossibility the simple drainage of the pneumoperitoneum and the aspiration of the stomach is enough to solve the problem.

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