Early View Article: Online published version of an accepted article before publication in the final form.

Journal Name: International Journal of Case Reports and Images (IJCRI)

Type of Article: Clinical Images

Title: Pneumopericardium resulting in pneumoperitoneum in a newborn with CDH

Authors: Thomas Pennaforte, Antoine Payot

doi: To be assigned

Early view version published: April 23, 2016

How to cite the article: Pennaforte T, Payot A. Pneumopericardium resulting in pneumoperitoneum in a newborn with CDH. International Journal of Case Reports and Images (IJCRI). Forthcoming 2016.

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Short Running Title: Pneumopericardium resulting in pneumoperitoneum in a newborn

Guarantor of Submission: The corresponding author is the guarantor of submission.
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CASE REPORT
A 5-day old girl presented with a pneumopericardium discovered fortuitously on a radiograph (Figure 1). She was born at term with a prenatal diagnosis of right-sided congenital diaphragmatic hernia (CDH) and required high frequency ventilation and inotrope/pressor therapy since birth. On day 6 the pneumopericardium increased and a pneumomediastinum was noted (Figure 2). The newborn remained stable without signs of cardiac tamponade. On day 7, the pneumopericardium/mediastinum resolved and a pneumoperitoneum appeared (Figure 3). The condition of the child improved at the same time and it was possible to gradually diminish ventilation pressures and discontinue inotrope/pressor therapy. No intestinal perforation was noted during surgery a few hours later.

DISCUSSION
Neonatal pneumopericardium is a rare condition in the neonate, usually caused by mechanical ventilation [1]. The only previously reported association of pneumopericardium with pneumomediastinum and pneumoperitoneum was in a 77 years old patient who received artificial ventilation following blunt chest trauma [2]. We believe that the air in the pericardial space dissected into the thoraco-abdominal peritoneal cavity leading to hemodynamic and respiratory improvement in this newborn with CDH.

CONCLUSION
This is the first case of a newborn with CDH presenting with pneumopericardium resulting in pneumoperitoneum and improvement of respiratory and hemodynamic functions before surgery.

CONFLICT OF INTEREST
None
AUTHOR’S CONTRIBUTIONS

Thomas Pennaforte
- Group 1 - Conception and design, Acquisition of data, Analysis and interpretation of data
- Group 2 - Drafting the article, Critical revision of the article
- Group 3 - Final approval of the version to be published

Antoine Payot
- Group 2 - Drafting the article, Critical revision of the article
- Group 3 - Final approval of the version to be published

REFERENCES


FIGURE LEGENDS

Figure 1: X-ray at day 5. Pneumopericardium

Figure 2: X-ray at day 6. Pneumopericardium increase and apparition of pneumomediastinum

Figure 3: X-ray at day 7. Pneumopericardium and pneumomediastinum resolution and apparition of pneumoperitoneum
FIGURES

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Figure 2: X-ray at day 6. Pneumopericardium increased and apparition of pneumomediastinum
Figure 3: X-ray at day 7. Pneumopericardium and pneumomediastinum resolution and apparition of pneumoperitoneum