

**The efficacy of thoracic USG in postoperative newborn patients after cardiac surgery**

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**Objectives:** The diagnosis of respiratory complications like pleural effusion, atelectasis and pneumothorax is important in postoperative management of newborns after congenital cardiac surgeries. Most frequent method to differentiate these intrathoracic pathologies is X-ray but particularly in newborn patients radiation exposure is detrimental. Thoracic ultrasonography (USG) is a diagnostic tool increasingly used in critical care. Few data are available concerning the pediatric and neonatal populations. In this study the efficacy of thoracic USG during echocardiography was evaluated in newborns.

**Methods:** 60 newborns were evaluated after pediatric cardiac surgery, successively between 1 March 2015-1 September 2015 in this study. Patients were evaluated for effusion, atelectasis and pneumothorax by USG and results were compared with X ray findings.

**Results:** 60% (n=42) of the cases were male, the median age was 14 days (2-30 days), the median body weight was 3.3 kg (2.8-4.5 kg). The median RACHS-1 score was 4 (2-6). Atelectasis was demonstrated in 66% (n=40) of the cases. 5 of them were determined solely by x-ray, 10 of them only by USG, 25 of them by both USG and x-ray. Pneumothorax was determined in 20% (n=12) of the cases. Except a case determined by both methods, all of the 11 cases were diagnosed by x-ray. Pleural effusion was diagnosed in 26% (n=16) of the cases. 4 of the cases were demonstrated solely by USG, 3 of them solely by x-ray, 9 of the cases by both methods. Pericardial effusion was demonstrated in 10% (n=6) of the cases. Except 1 of the cases determined by both methods, 5 of the cases were diagnosed by USG.

**Conclusion:** Thoracal USG is a beneficial non-invasive method to evaluate postoperative respiratory problems in newborns who had congenital cardiac surgery.