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Title: Usefulness of chest ultrasound to detect and monitor pneumonia in pregnancy

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Body: Background: Usefulness of ultrasound (US) in pregnancy is approved as low-risk diagnostic technique if compared to ionizing radiations. Chest US evaluation can be performed at patient bed-side and can help physicians to get the correct diagnoses. We tried to apply chest US evaluation in order to detect, diagnose and monitor pathologic processes of both peripheral lung parenchyma and pleural space in pregnant women. Materials and methods: Pregnant women admitted to Obstetric Pathology Hospital Department for respiratory diseases were enrolled. Patients underwent chest US examination when there was a respiratory disease highly suggestive of pneumonia and/or pleural effusion (i.e. fever, dispnoea, leukocytosis, cough, chest pain) and chest X-ray (CXR) should have been obtained. Both convex and linear probes were used. We identified 3 kinds of chest US patterns: lung consolidation (LC), pleural effusion (PE) and echographic interstitial syndrome (IS). When chest US pathologic signs were reported, one or more subsequent chest US examinations were performed in order to follow-up the patient until their complete resolution. Results: 13 inpatients underwent 28 chest US evaluations. We identified: 6 LCs, 5 PEs and 3 ISs. 7 patients showed leukocytosis and 1 leukopenia. Total number of CXRs was 6 (8 females avoided X-rays exposure and 1 underwent 2 CXR evaluations on the advice of Gynecologist). Chest US follow-up, during and after therapy, showed complete resolution of echographic patterns previously described. Conclusions: chest US evaluation during pregnancy can be a usefull diagnostic tool to detect respiratory diseases and monitor them during therapy, avoiding eccessive X-rays exposure.