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Title: Lung ultrasound as an ambulatory investigation tool in respiratory medicine: An audit of clinical practice

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Body: INTRODUCTION Lung ultrasound is an imaging tool which is increasingly used by nonradiology physicians in the intensive care unit and the emergency department. However, there is a lack of data concerning lung ultrasound directly provided by the pulmonologist during ambulatory investigations.

METHODS The study is an audit of clinical practice of the respiratory diseases ambulatory of a tertiary care university hospital. Consecutive lung ultrasounds, performed by pulmonologists, were prospectively recorded from April 2011 to February 2012. The main indication, methods and clinical consequences were registered on a web-database. RESULTS 8 experienced operators performed 112 exams on 92 patients (aged 66 +/- 4 years, mean +/- sd, 42 females). The mean duration of the exam was 8 +/- 2 minutes. B-mode was used in all patients, while functions such as M-mode and Color-Doppler were needed in 10% and 4%. Convex probe was the most used as a single transducer (82% of the cases); linear probe was used in association with the convex or as unique probe in 22% of the exams. The main indications were: pleural effusion (32%), thoracentesis (25%), lung consolidation (12%), pneumothorax (10%), dyspnoea (8%), acute exacerbation of COPD (6%), heart failure (4%), and diaphragm dysfunction (2%). The pulmonologist who executed the exam reported that in 72% of the cases lung ultrasound had a clinical impact, even if minor, on patient management.

CONCLUSIONS The execution of lung ultrasound is a rapid and feasible imaging tool which may often provide clinically relevant data during ambulatory consultations. Further studies will be needed to evaluate the impact of lung ultrasound on outpatients management.