Patients and methods: The study design is a multicentric prospective cohort, including six EDs in Pavia, Italy, with a six-months recruitment period in each center. The study will recruit 1,000 patients. Adult patients with acute dyspnoea are considered eligible. After the initial diagnostic work-up, the dyspnoea is classified as cardiogenic or respiratory. At this point, LUS and then a chest X-ray are performed. The entire medical records are independently reviewed by a panel of expert physicians blinded to the LUS results, in order to determine if the patient’s dyspnoea on presentation was related to heart failure or respiratory disease.

Results: From October 1st, 2010 to March 30th, 2011, 120 patients were enrolled at AOU San Giovanni Battista in Turin and “E. Agnellii” General Hospital in Piacenza. The median age was 77 years (range 34–99 years). Clinical evaluation had a sensitivity of 91.2% (CI 81.8–96.7%) and a specificity of 82.7% (CI 69.7–91.8%) for the diagnosis of cardiogenic dyspnea, with a positive predictive value of 87.3% (CI 77.3–94%) and a negative predictive value of 87.5% (CI 75.2–95.4%). LUS had a sensitivity of 97.1% (CI 95.9–98.9%), a specificity of 92.3% (CI 81.5–97.9%), a positive predictive value of 94.3% (CI 86–98.9%), and a negative predictive value of 86% (CI 36.3–99.9%)

Conclusions: The preliminary results of our study showed a high LUS diagnostic accuracy for the diagnosis of cardiogenic dyspnoea patients admitted to EDs. At the end of enrollment (expected in February 2012), we will be able to estimate the diagnostic accuracy of LUS in a significantly larger sample of patients.

SYMPTOMATIC UNDIFFERENTIATED HYPOTENSION IN EMERGENCY: THE DIAGNOSTIC USEFULNESS OF A FOCUSED MULTI-ORGAN ULTRASOUND ASSESSMENT

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Background: Symptomatic undifferentiated hypotension is a frequent and potentially life-threatening condition in the emergency department. The aim of this study is to assess the feasibility and accuracy of a focused ultrasound abdomen that might consist of the focused study of the thorax, abdomen and leg veins. In the present study, 100 consecutive patients presenting to our emergency department complaining of at least one of the neurologic, respiratory or cutaneous signs and symptoms of inadequate tissue perfusion. The operator declared the diagnostic hypothesis without involving the physical and the following diagnostic procedures were performed: chest X-ray, electrocardiography, lactate, and arterial blood gas analysis. The final diagnosis was determined by the operator, which was subsequently confirmed by the attending physician.

Materials and methods: We prospectively studied 100 patients (<100 mmHg) patients presenting to our emergency department, complaining of at least one of the neurologic, respiratory, or cutaneous signs suggesting inadequate tissue perfusion. We measured the mean arterial pressure, the central venous pressure, and the cardiac output.

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CRITICAL ULTRASOUND APPLICATIONS ON A DOG HIT BY CAR: A CASE REPORT

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A 2 years old intact male mixed breed dog was hit by car 1 h prior to presentation. The dog was painting with some fingers wounds. Flow by oxygen was delivered, a venous access was performed for initial treatment with crystallids solution to correct hypovolemic shock and a blood sample was collected for emergency laboratory works. A FAST ABCEDE-confronted ultrasound assessment showed right pneumothorax and small amount of abdominal free fluid. Thoracentesis was performed and 300 ml of air was collected. A secondary survey was performed, without any differences with the previous exams. A third survey showed again right pneumothorax, so another thoracentesis was performed and 30 ml of air were obtained.