Title: Clinical characteristics and prognostic factors of pulmonary embolism in different age groups

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Body: Diagnosis of pulmonary embolism (PE) remains difficult and is often missed in the elderly due to nonspecific and atypical presentation. Diagnostic algorithms able to rule out PE and validated in young adult patients may have reduced applicability in elderly patients, which increases the number of diagnostic tools use and costs. To assess the particularities of PE in the elderly, we report a comparative study including 100 patients managed for a PE from which 40 were aged over 65 years (G1) and 60 were aged less than 65 years (G2). The 2 group were similar in terms of sex-ratio and smoking exposure. Comorbidities were significantly more frequent in the G1 (dominated by COPD and cardiovascular pathologies) p=0.02. Chest pains and hemoptysis were significantly less frequent in the elderly (respectively 17% vs 73%; p=0.001 and 2% vs 16% ; p=0.04). There was no difference between the two groups concerning the frequency of fever, polypnea, tachycardia or signs of right heart failure. Radiological data showed that atelectasis were more frequent in elderly (42% vs 8% 13%; p=0.03). Hypoxemia were significantly more frequent and more severe in the elderly (85% versus 75%; p= 0.09 ; average PO2 at 66 mm Hg versus 77 mm Hg; p=0.001). There was no difference concerning HCO2 or ECG. PE was confirmed by CT scan or Doppler sonography in the same proportions between the 2 groups. The death rate was similar in both group. The wells score was significantly higher in the first group (p=0.01). The Geneva score was similar in the 2 groups. PE in elderly is associated with less clinical symptoms, more chest x-ray abnormalities and more frequent and severe hypoxemia and a higher wells probability score.