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The diagnostic management of suspected pulmonary embolism in special patient populations

1. Accurate selection of those patients with suspected pulmonary embolism requiring diagnostic imaging is of paramount importance. (*Le Gal et al, J Thromb Haemost 2004*)
2. According to the theorem of Bayes, a higher failure rate (defined as the 3-month incidence of venous thromboembolism despite a negative test at baseline) is to be expected in groups with a higher pulmonary embolism risk. (*Dronkers et al, J Thromb Haemost 2017*)
3. Prognostic assessment in patients with pulmonary embolism is crucial. Whereas 30–50% of hemodynamically stable patients with pulmonary embolism are eligible for home treatment, the other half requires hospitalization with or without hemodynamic monitoring. (*Konstantinides et al, Eur Heart J 2020*)
4. COVID-19 predisposes to both venous and, to a lesser extent, arterial thrombotic complications due to excessive inflammation, hypercoagulability, hypoxia, immobilization and diffuse intravascular coagulation. (*Zhou et al, Lancet 2020*)
5. The Wells and revised Geneva scores combined with fixed and adapted D-dimer thresholds as well as the YEARS algorithm showed acceptable safety for ruling out pulmonary embolism across relevant patient subgroups including elderly patients, those with cancer, or those with previous venous thromboembolism. (*this thesis*)
6. Pulmonary embolism can be safely ruled out based on a non-high clinical probability and a normal pretest probability-dependent D-dimer test in up to 40% of pregnant women, thereby reducing the need for imaging tests involving radiation. (*this thesis*)
7. Patients admitted with COVID-19 have a distinctly increased risk for thrombotic complications compared to hospitalized influenza patients. This risk difference is mainly driven by an exceptionally high venous thrombotic risk in COVID-19 patients admitted to the Intensive Care Unit, while influenza patients are more often diagnosed with arterial thrombotic complications. (*this thesis*)
8. The failure rate after a negative CT-scan, used as a sole test or within the YEARS algorithm, in patients with COVID-19 is high, reflecting the high thrombotic risk in these patients and underlining the importance of remaining alert for incident (new) venous thrombotic events during follow-up. (*this thesis*)
9. Sommige stellingen zijn zo goed dat het jammer zou zijn ze met een vraag te verknoeien. (*naar analogie van Harry Mulisch, 1927-2010*)
10. Voor een efficiënt promotie-traject geldt: ‘Wat je vandaag moet doen, moet je doen zoals je morgen denkt dat je het had moeten doen.’ (*naar analogie van Toon Hermans, 1916-2000*)