headache, thus potentially negating the need for lumbar puncture. One of the most widely cited objections to this strategy is the fear of detecting "incidental asymptomatic aneurysms," lesions seen on angiography that are not in fact the cause of the patient's symptoms. Currently existing data on the background rate of aneurysms are based on cadaveric studies, invasive angiography, or MRI, and thus does not reflect the true rate of incidental aneurysms that would be detected using a CT plus CTA strategy. This study characterizes the rate of incidental aneurysms identified on CTA in an emergency department population. **Methods:** In this multicentre retrospective cohort study we analyzed the electronic medical records of all emergency department patients ≥ 18 years of age who underwent CTA of the head and neck over a two month period across four urban tertiary care emergency departments. Two independent reviewers evaluated the final radiology reports and extracted relevant data. The primary outcome of interest was the presence of incidental intracranial aneurysm, defined as a newly diagnosed aneurysm not associated with evidence of acute hemorrhage. Secondary outcomes included aneurysm location and size. **Results:** Of 739 charts meeting inclusion criteria, incidental intracranial aneurysms were detected in 21 cases or 2.85% (95% confidence interval, 1.77 - 4.32). An additional 20 aneurysms were identified but excluded from the analysis as they were previously known (n = 9) or were associated with evidence of acute hemorrhage (n = 11) and thus were not considered incidental. Of 21 patients with identified incidental aneurysms, 7 had multiple aneurysms. The most common aneurysm sites were internal carotid artery (n = 13), middle cerebral artery (n = 6) and anterior cerebral artery (n = 4). The average size of incidental aneurysm was 4.1 mm. **Conclusion:** The rate of incidental intracranial aneurysm among emergency department patients undergoing CTA of the head and neck is lower than many previously described estimates obtained through invasive angiography and MRI studies. To our knowledge, this is the first study on the prevalence of incidental intracranial aneurysms in an emergency department specific population and may therefore help guide clinicians when considering using a CT plus CTA rule out strategy for patients presenting with acute headache suspicious for SAH. **Keywords:** aneurysm, angiography, subarachnoid

LO55

Comparison of the age-adjusted D-dimer, clinical probability-adjusted D-dimer, and Wells rule with D-dimer for diagnosing deep vein thrombosis in the emergency department.

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Introduction: Diagnosing deep vein thrombosis (DVT) is of critical importance because of its associated morbidity and mortality. Diagnosing DVT can be challenging in the Emergency Department (ED) due to inconsistent adherence to, and utilization of the Wells rule. Both the age-adjusted and clinical probability adjusted D-dimer have been shown to decrease ultrasound (US) utilization rates. We aimed to compare the safety and efficacy of the Wells score with D-dimer to the age-adjusted and clinical probability-adjusted D-dimer in Canadian ED patients tested for DVT. **Methods:** This was a health records review of ED patients investigated for DVT at two EDs over a two-year period. Inclusion criteria were ED physician ordered duplex ultrasonography or D-dimer for investigation of lower limb DVT. Patients under the age of 18 were excluded. DVT was considered to be present during the ED visit if DVT was diagnosed on duplex ultrasonography and was treated for acute DVT, or if the patient was subsequently diagnosed with pulmonary embolism (PE) or DVT during the next 30 days. Trained researchers extracted anonymized data. The Wells D-dimer, age-adjusted D-dimer, and the clinical probability-adjusted D-dimer rules were applied retrospectively. The rate of duplex ultrasonography imaging and the false negative rate was calculated for each rule. **Results:** Between April 1st 2013 and March 31st 2015, there were 1,198 patients tested for DVT. Of the low and moderate clinical pretest probability patients (Wells score ≤ 2), only 436 had a D-Dimer test and were eligible for our analysis. The average age of the patients was 59, 56% were female, and 4% had a malignancy. 207/436 patients (47.4%, 95%CI 42.8-52.2%) would have had US imaging for DVT if the age-adjusted D-dimer rule was used. 214/436 patients (49.1%, 95%CI 44.4-53.8%) would have had imaging for DVT if the clinical probability-adjusted D-dimer was used. If the Wells rule was used with the standard D-dimer cutoff of 500, 241/436 patients (55.2%, 95%CI 50.6-59.9%) would have had imaging for DVT. The false-negative rate for the Wells rule was 1.5% (95%CI 0.5-4.4%). The false-negative rate for the age-adjusted D-dimer rule was 1.3% (95%CI 0.4-3.8%). The false-negative rate for the clinical-probability adjusted D-Dimer was 1.8% (95%CI 0.7-4.5%). **Conclusion:** In comparison with the approach of the Wells score and D-dimer, both the age-adjusted and clinical probability-adjusted D-dimer diagnostic strategies could reduce the proportion of patients who require US imaging.

Keywords: thrombosis

LO56

Rate of delirium recognition by nurses and physicians in a cohort of 1584 older emergency department patients: how many would have been sent home?

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Introduction: Unrecognized delirium in the ED remains common despite a 3 fold mortality increase for those discharged home. But previous studies have not assessed delirium recognition rate in a multi-center study nor assessed the management plans of ED staff when they fail to recognize delirium. Objectives: To document 1) the rate of delirium recognition by nurses and MDs in a national sample and 2) the intended management plans for patients with unrecognized delirium. **Methods:** This is a planned sub-study of a randomized clinical trial at 5 EDs in 4 provinces conducted in English and French. We included people ≥ 65 years old. We excluded those with an ED stay < 4 hours, critical illness, visual impairment or from a nursing home. Research assistants (RAs) assessed delirium using the validated Confusion Assessment Method. RAs then asked ED nurses and physicians if the patient had delirium according to their clinical assessment. RAs also asked how confident they were that the patient could be safely discharged home using a 10 point Likert scale. We report proportions and 95% confidence intervals. RAs notified all ED staff of unrecognized CAM + ve patients prior to actual discharge for safety reasons. **Results:** We recruited 1584 older people; 1496 (92.5%) had complete data. Mean age was 76.5; 49% were female. Nurses performed 1465 delirium assessments. There were 76 CAM + ve patients in our sample (5.2%, 95% CI 4.2 to 6.5%). Nurses recognized delirium in 34/76 (44.7%, 95% CI: 33.3 to 56.6%). MDs assessed 20 CAM + ve patients and recognized the delirium in 10/20 (50.0%, 95% CI: 27.2 to 72.8). Nurses felt that 11/42 patients with unrecognized delirium could be discharged (26.2% 95% CI: 13.9 to 42.0%). Their median confidence