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ISSUE HIGHLIGHTS

Predicting Failure of Intravenous Access in Adults

This study reanalyzes data collected in a clinical trial to estimate the risk of failure to gain intravenous (IV) access by traditional methods associated with a prior need for advanced techniques (peripheral ultrasound guidance, external jugular access, central venous access). Results of the reanalysis showed that prior need for advanced techniques was associated with a 14% increase in the risk of failure to establish IV access via traditional methods. Overall, traditional methods of IV access failed in 4.7% of patients.

Screening Tools Poorly Predict Opioid Misuse

This study evaluated the effectiveness of 3 commonly used screening tools to assess the risk of opioid misuse in emergency department (ED) patients. This was a prospective, observational study of 154 patients (median age 50 years, 49.6% female) presenting to an academic ED with the chief complaint of pain for 6 months or more, or an opioid refill request. Patients completed 3 tools for opioid misuse {the Current Opioid Misuse Measure (COMM), Screen and Opioid Assessment for Patients with Pain-Revised (SOAPP-R), and the Opioid Risk Tool]. All 3 screening tools were previously validated in the pain management setting. The results showed that all 3 screening tools poorly characterized the risk of drug-related aberrant behavior among ED patients with chronic noncancer pain or who were requesting opioid refill. It is recommended that these tests should not be used in isolation to assess ED patients for aberrant drug behavior or to decide which patients might safely receive opioid prescriptions in the ED.

Approach to Complications of Ventricular Assist Devices

Patients with advanced heart failure that fails medical therapy are increasingly being treated with implanted ventricular assist devices (VAD) and many of these patients present to the ED with complications. Emergency physicians must be familiar with the basic functioning of VADs and the initial management of complications. This Clinical Review article provides an evidence-based summary of the current data on the evaluation and management of implanted VAD complications in the ED context.

Need for Delayed Naloxone or Oxygen for Heroin Reversal in ED Patients who received naloxone for heroin overdose present in large numbers to the ED. However, there is no agreed-upon safe ED observation period for these patients. Performing a subset analysis of data from a larger study, this study aimed to determine the expected safety of a 2-hour observation period following an initial naloxone administration by studying the rate of delayed intervention (oxygen or repeat naloxone) after a 2-hour ED observation period. The results showed that there were 806 patent visits to the ED over a 5-year period for heroin use after receiving naloxone. Of these, 3.6% received a repeat dose of naloxone and 2% received oxygen. Patients with polysubstance abuse were more likely to require additional naloxone doses and were more likely to be admitted.

Emergency Physician Initiated Resuscitative ECMO

Advanced resuscitative strategies like extracorporeal membrane oxygenation (ECMO) are being used with increasing frequency worldwide. This retrospective analysis was performed to determine whether emergency physicians in a nonacademic hospital can initiate ECMO with a reasonable clinical outcome. Results showed that of the 43 ECMO cases initiated in the ED, 25% survived, and nearly all survivors had favorable neurologic recovery. After covariate adjustment, ECMO patients were more likely than concurrent controls to survive to hospital discharge.

Incidence of Nephrotoxicity after Vancomycin in Severe Renal Impairment Patients

A retrospective cohort study was undertaken to investigate nephrotoxicity related to the initial loading dose of vancomycin in patients with severe renal dysfunction. Results showed that of the 927 patients included in the analysis, nephrotoxicity occurred in 7.2% in the high dose group and 13.8% in the low dose group. Patients in the high dose group had a reduced risk of nephrotoxicity. The results of this study suggest that vancomycin loading dose does not increase nephrotoxicity compared with low dose in patients with severe renal dysfunction.

Resuscitative Endovascular Balloon Occlusion

Noncompressible torso hemorrhage (NCTH) is difficult to control and is associated with significant mortality. Resuscitative endovascular balloon occlusion of the aorta (REBOS) utilizes an infra-diaphragmatic approach to control NCTH and is less invasive than resuscitative thoracotomy. This article highlights the evidence for REBOA and reviews the indications, procedural steps, and complications for emergency physicians.