

specialty and level of training of the health professional who performed the procedure was not associated with the incidence of at least one complication.

Keywords: chest tube, predictors, thoracostomy

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Kussmaul's sign for the diagnosis of right ventricular myocardial infarction

E. Dubé, BHS, MD, MPH, M. Crozier, BHS, A. Middleton, BHS, BSc, B. Best, BSc, MSc, Northern Ontario School of Medicine, Sudbury, ON

Introduction: Kussmaul's sign, the absence of a drop in JVP or a paradoxical increase in JVP on inspiration, can be elicited clinically as an indicator of right ventricular myocardial infarction (RVMI). RVMI poses unique diagnostic and management challenges. It complicates 30-50% of inferior MI and is associated with increased mortality when compared to inferior MI without RV involvement. Early recognition allows maintenance of preload by avoiding use of nitroglycerin, diuretic and narcotic medication, and treatment with fluids and vasopressors. We reviewed the evidence for Kussmaul's sign for diagnosis of RVMI. **Methods:** We conducted a librarian assisted search using PubMed, Medline, Embase, the Cochrane database, relevant conference abstracts from 1965 to October 2019. No restrictions for language or study type were imposed. All studies with patients presenting with acute myocardial infarction were reviewed. Two independent reviewers extracted data from relevant studies. Studies were combined when similar study populations were present. Study quality was assessed using the QUADAS-2 tool. Random effects meta-analysis was performed using metaprop in Stata for the 3 reference standards combined. Subset analysis for each of the 3 reference standards was completed. **Results:** We identified 122 studies: 10 were selected for full text review. Eight studies had comparable populations with a total of 469 consecutive patients admitted to the coronary care unit with acute inferior myocardial infarction and were included in the analysis. Prevalence of RVMI was 36% (CI 95% 31.8-40.5). Reference standards for the diagnosis of RVMI included echocardiography, 16 lead ECG and haemodynamic studies. A gold standard for diagnosis of RVMI is lacking and thus the reference standards were combined. Kussmaul's sign had a sensitivity of 69.3% (CI 95% 46.3 - 85.5, I2- 86.7%), specificity of 95.1% (CI 95% 75.6 - 99.2, I2- 89.3%) and LR + 14.1 (CI 95% 2.6-73.2). Subset analysis of echocardiography, ECG and haemodynamic studies revealed sensitivity of 45%, 77% and 82% (I2- 62%, N/A, 70%) respectively and specificity of 92%, 84% and 92% (I2- 86%, N/A, 86%). **Conclusion:** Kussmaul's sign is specific for acute right ventricular myocardial infarction and may serve as an important clinical sign of right ventricular dysfunction requiring preload preserving management.

Keywords: clinical exam, Kussmaul's sign, right ventricular myocardial infarction

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Strengthening inter-professional collaboration in home-based community paramedic programs

K. Jagos, MScN, I. Drennan, M. McNamara, MD, J. Limoges, PhD, University of Toronto, Toronto, ON

Introduction: Community paramedic programs are being implemented to leverage existing resources and contribute to a sustainable patient-centered healthcare system. Expanding the role of paramedics into home care requires new collaborative relationships with

healthcare providers such as nurses and physicians. Developing effective and productive collaborative relationships will enhance and support the integration of community paramedic programs. Our objective was to describe the barriers and facilitators to effective collaboration between nurses, physicians, and paramedics within home-based community paramedicine. **Methods:** We conducted semi-structured interviews with nurses, physicians, paramedics, and faculty who teach in paramedic programs. We explored the attitudes, perceptions, barriers, and enablers to collaboration in home-based community paramedic programs. Participants were recruited utilizing the professional networks of the researchers as well as snowball sampling. Recruitment in each group stopped when saturation was achieved. We conducted a thematic analysis of the interviews to generate findings related to our objectives. **Results:** We interviewed 33 participants with a typical cross-section of age, years of experience, and education. Overall, participants felt that collaboration was important for effective integration of community paramedics into home care and for ensuring a patient-centered approach to care. Currently, collaboration mostly occurs between physicians and paramedics and community paramedicine appears to be a siloed rather than integrated service. Few collaborative relationships exist between paramedics and nurses, despite the fact that nurses are highly involved in home care. We identified several barriers to effective collaboration including lack of understanding of the contributions of the different health providers, and regulatory and funding constraints. Inter-professional education that supports collaboration and facilitates dismantling of professional and service silos can support the effective integration of paramedics into home care. **Conclusion:** Strengthening networks of collaboration between nurses, physicians, and paramedics can help dismantle silos and enhance inter-professional collaboration to support appropriate integration of paramedics into home care. The willingness and positive attitudes for collaboration are assets that provide an excellent foundation upon which to move forward. Continuing education to support inter-professional collaboration is needed.

Keywords: community paramedicine, inter-professional collaboration

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Examining emergency physicians' self-reported opioid prescribing practices for the treatment of acute pain: A Newfoundland perspective

P. Doran, BSc, MD, MSc, G. Sheppard, MD, BSc (Hons), B. Metcalfe, BSc, MD, Memorial University, St. John's, NL

Introduction: Canadians are the second largest consumers of prescription opioids per capita in the world. Emergency physicians tend to prescribe stronger and larger quantities of opioids, while family physicians write the most opioid prescriptions overall. These practices have been shown to precipitate future dependence, toxicity and the need for hospitalization. Despite this emerging evidence, there is a paucity of research on emergency physicians' opioid prescribing practices in Canada. The objectives of this study were to describe our local emergency physicians' opioid prescribing patterns both in the emergency department and upon discharge, and to explore factors that impact their prescribing decisions. **Methods:** Emergency physicians from two urban, adult emergency departments in St. John's, Newfoundland were anonymously surveyed using a web-based survey tool. All 42 physicians were invited to participate via email during the six-week study period and reminders were sent at weeks two and four. **Results:** A total of 21 participants responded to the survey. Over half