

Prior abstract publication/presentation

None.

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References

- [1] Shi H, Hong Y, Qian JF, Cai XF, Chen SW. Xuebijing in the treatment of patients with sepsis. *Am J Emerg Med* 2017;35:285–91.
- [2] Li Q, Ren J, Liu G. Meta-analysis of Xuebijing in treating sepsis. *Drug Eval* 2014;10:9–13 [in Chinese].
- [3] Zhou GS, He BR, Ye LJ, Zhang L, Ma LX, Gao L, et al. Meta-analysis of XBJ plus ulinastatin in treating sepsis. *J Guangdong Med Coll* 2014;32:626–8 [in Chinese].
- [4] Xu YQ, Gen Y, Tong HS, Li HB, Wan P, Su L. Meta-analysis of XBJ injection in improving the survival rate of sepsis patients. *Clin J Tradit Chin Med* 2014;26:456–60 [in Chinese].
- [5] Sun CL, Zhang Y, Wang X. Meta-analysis of Xuebijing therapy of sepsis. *J Tradit Chin Med Emerg* 2012;21:411–3 [in Chinese].
- [6] Zhou XS, Tang GH, Li J, Ye Y. Xuebijing injection reducing mortality of septic shock patients: a systematic review and meta-analysis. *Chinese Archives of Traditional Chinese Medicine*, 34, ; 2016. p. 2161–4 [in Chinese].
- [7] Moher D, Liberati A, Tetzlaff J, Altman DG, And TPG. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *Int J Surg* 2010;8:336–41.

Mixed meningitis may also present without CSF pleocytosis



Absence of cerebrospinal fluid (CSF) pleocytosis may be a feature, not only when meningitis is attributable to a single culprit pathogen [1] but also when there are two or more culprit pathogens, so-called mixed meningitis. Although mixed tuberculous and streptococcal meningitis may be a feature in some patients with human immune deficiency virus (HIV) coinfection [2] it has only been in the context of dual meningeal infection with *Cryptococcus neoformans* and *Streptococcus pneumoniae* that an acellular CSF has been reported in an HIV-positive subject [3].

Given the fact that the CSF may be acellular in up to 16% of patients (with and without HIV seropositivity) with tuberculous meningitis [4], and in up to 37.5% of patients (both immunocompromised and immunocompetent) with cryptococcal meningitis [5], it may well be that simultaneous infection with both organisms is also a risk factor for normocellular CSF. Vigilance in this respect is justified by the recognition of simultaneous tuberculous and cryptococcal meningitis as an entity that may affect both immunocompromised and immunocompetent patients [6]. In the latter report and literature review there were 8 patients, including a 10 year old and seven adults. No underlying disease could be identified in the 10 year old and in a 25 year old adult [6].

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References

- [1] Troendele M, Willis D. Fulminating bacterial meningitis due to *Neisseria meningitidis* with no pleocytosis on lumbar puncture. *Am J Emerg Med* 2017;35:198.
- [2] Karstaedt AS, Valtichanova S, Barriere R, Crewe-Brown HH. Tuberculous meningitis in South African urban adults. *Q J Med* 1998;91:743–7.
- [3] John MA, Coovadia Y. Meningitis due to a combined infection with *Cryptococcus neoformans* and *Streptococcus pneumoniae* in an AIDS patient. *J Infect* 1998;36:231–2.
- [4] Garcia-Monco JC. Central nervous system tuberculosis. *Neurol Clin* 1999;17:737–59.
- [5] Koshy JM, Mohan S, Deodhar D, John M, Oberoi A, Pannu A. Clinical diversity of CNS cryptococcosis. *J Assoc Physicians India* 2016;64:15–9.
- [6] Mete B, Saltoglu N, Vanli E, Ozkara C, Arslan F, Mert A, et al. Simultaneous cryptococcal and tuberculous meningitis in a patient with systemic lupus erythematosus. *J Microbiol Immunol Infect* 2016;49:289–94.

Emergency intervention in a case of an anomalous origin of the right coronary artery from the left anterior descending artery



The anomalous origin of the right coronary artery (RCA) as a branch of the left anterior descending (LAD) artery is a rare variant. This has been rarely described in the literature, however little is known about the percutaneous intervention in a patient with such anatomy, especially in the acute setting. Coronary anomalous represent one of the biggest challenges faced by an interventional cardiologist. In the emergency setting of acute ST-segment elevation myocardial infarction, revascularization of the culprit artery should be performed promptly and if the non culprit artery cannot be readily identified the possibility of an anomalous origin from the culprit artery should also be considered.

Primary Percutaneous coronary intervention (PPCI) has evolved as the leading treatment for acute ST elevation myocardial infarctions (STEMI) due to improved outcomes over traditional fibrinolytic therapy [1]. However, it is not without its technical challenges. One of the nightmare situation in the emergency setting is to locate a non culprit artery that is having an anomalous origin. Anomalous vessels remain very rare however when encountered they are both unfamiliar and invoke a degree of uncertainty regarding optimal treatment strategies [2].

We report a case whereby an anomalous RCA originating from the midportion of the LAD was discovered in a patient presenting with an acute anterior ST elevation myocardial infarction (STEMI). We have demonstrated that this can be diagnosed and treated safely and promptly with excellent outcomes.

A 49-year-old gentleman with a background of smoking, depression and alcohol excess presented to a tertiary cardiology centre with an acute anterior ST elevation myocardial infarction. On arrival to the accident and emergency department he suffered a cardiac arrest, with ventricular fibrillation. Return of spontaneous circulation was achieved after the delivery of four unsynchronised shocks. His subsequent 12 lead ECG demonstrated ST elevation anteriorly so he was transferred to the local PPCI centre as a suspected ST elevation myocardial infarction.

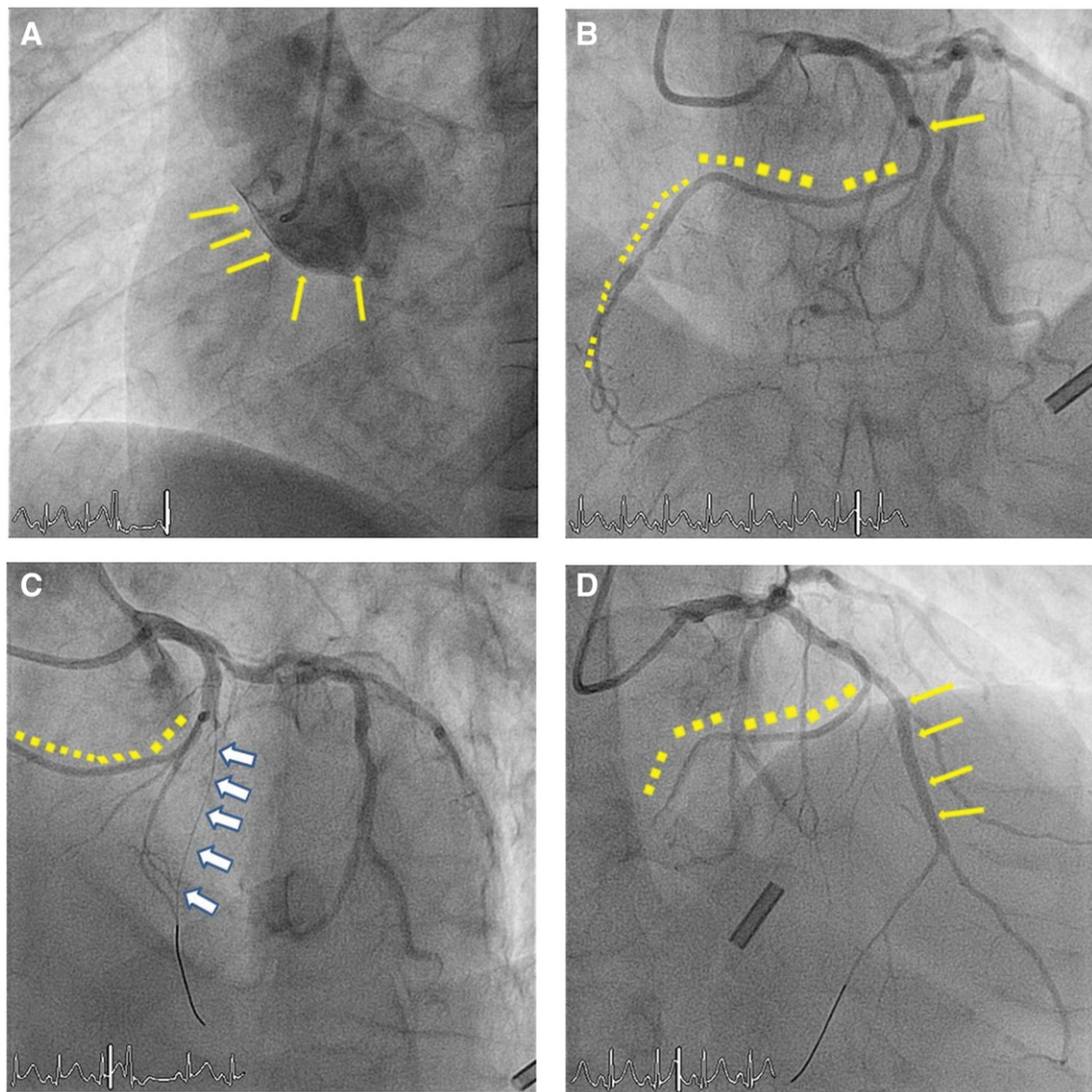


Fig. 1. A. Aortic root angiography showing, absent origin of Right Coronary Artery (left anterior oblique 35°). B. Proximal occlusion of the left anterior descending artery (yellow arrow) and origin of the anomalous right coronary artery (yellow dots) (left anterior oblique 35° and cranial 25°). C. A coronary guide wire in the track of proximal occlusion of the left anterior descending artery (white arrows) and anomalous right coronary artery (yellow dots) (left anterior oblique 45° and cranial 20°). D. Origin of the anomalous right coronary artery (yellow dots) and course of the left anterior descending artery after PCI (yellow arrow) (posterior anterior 15° and cranial 35°). (For interpretation of the references to color in this figure legend, the reader is referred to the web version of this article.)

Angiography was performed via a right radial approach. Initial attempts to catheterise the right coronary artery (RCA) using a JL3.5 6F guide catheter was unsuccessful (Fig. 1A). Contrast injection into the right sinus of Valsalva suggested that the RCA did not arise from its usual position. Consequent imaging of the left anterior descending (LAD) artery demonstrated an anomalous origin of the RCA arising from the mid LAD in LAO cranial view (Fig. 1B). There was a 100% LAD occlusion just past the origin of the RCA, thought to be the culprit lesion (Fig. 1B) – LAO cranial view. The RCA itself was diffusely diseased, with an average 74–95% stenosis throughout. There was no significant stenosis in the left circumflex artery.

The LAD was easily wired using galeo floppy wire in LAO cranial (Fig. 1C) and PA cranial views and was pre-dilated with a 2.5×15 mm balloon. A resolute 2.75×30 mm drug eluting stent was deployed in the mid LAD and a further resolute drug eluting stent 3.00×26 mm was inserted just proximal to the mid LAD. The RCA origin was stented over without any complications and with the excellent angiographic result (Fig. 1D). After a short stay in the intensive care unit for cooling and ventilation, he was discharged back to his local hospital for rehabilitation.

The incidence of coronary artery anomalies is approximately 0.2–1.3% [2]. The majority of these patients are asymptomatic and are identified

incidentally at angiography. However, there can be a malignant course if the vessel passes through the walls of the pulmonary trunk and aorta. These patients can present with symptoms of ischemia. An anomalous origin of the RCA is a rare variant with a reported incidence of 0.02–0.26% in the general population [3–4]. The incidence is slightly higher in the Indian population. An anomalous RCA most often arises from the left sinus of Valsalva, however, a variety of origins have been encountered including left anterior sinus, ascending aorta, left mainstem, left circumflex and pulmonary artery. Although usually benign, cases of sudden cardiac death have been described in the literature [4]. In addition, these vessels are particularly prone to atherosclerosis due to their tortuosity and represent the most challenging cases encountered by interventional cardiologists. There is limited data on the success of intervention involving these vessels making decisions regarding management strategies difficult. In this case, the RCA arose from the mid LAD as a side branch. This anatomy has previously been described in single case reports however to the best of our knowledge, the use of PPCI at an anomalous origin has not been well highlighted in the available literature [5]. This is a reminder for readers that in case a non culprit artery cannot be readily identified the possibility of an anomalous origin from the culprit artery should also be considered.

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References

- [1] Waters RE, Mahaffey KW, Granger CB, Roe MT. Current perspectives on reperfusion therapy for acute ST-segment elevation myocardial infarction: integrating pharmacologic and mechanical reperfusion strategies. *Am Heart J* 2003 Dec;146(6):958–68.
- [2] Yamanaka O, Hobbs RE. Coronary artery anomalies in 126,595 patients undergoing coronary arteriography. *Cathet Cardiovasc Diagn* 1990 Sep;21(1):28–40.
- [3] Xuguang Q, Xiang W, Lu C. The coronary anomaly: right coronary artery originates from the mid left anterior descending artery. *J Invasive Cardiol* 2010 Sep;22(9):E166–7.
- [4] Canbay A, Ozcan O, Vural M, Diker E. A rare coronary artery anomaly: anomalous right coronary artery arising from the left anterior descending artery. *Int J Cardiol* 2008 Sep 26;129(2):e43.
- [5] Balghith M. Anomalous origin of the right coronary artery from the proximal left anterior descending artery and a single coronary artery anomaly: three case reports. *J Saudi Heart Assoc* 2013 Jan;25(1):43–6.

Tracheal intubation through I-gel performed during simulated cardiopulmonary resuscitation☆



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Sir,

We read with great interest article “Comparison of the Macintosh laryngoscope and blind intubation via the I-gel for intubation with cervical spine immobilization: A randomized, crossover, manikin trial” by Gawlowski et al. [1]. The authors compared the efficacy of the intubation and duration of the endotracheal intubation procedure using a Macintosh laryngoscope and blind intubation using I-gel supraglottic airway as a guide for the endotracheal tube. The authors correctly note that intubation is the “gold standard” for airway management in many emergency situations.

In the operating theatre the endotracheal intubation is generally performed in the most optimal conditions (the possibility of proper oxygenation of the patient and the use of muscle relaxants, the use of sniffing position and availability of the experienced personnel) while in emergency medicine settings, especially for the Emergency Medical Service, the personnel performing endotracheal intubation often have to face the very urgent and difficult, challenging and adverse circumstances even having limited experience. The factors affecting the intubation procedure time and effectiveness include suboptimal head and neck position, cervical spine immobilization [1,2], the lack of full access to the patient's airway in the event of the patient entrapment in a vehicle [3] or the position during CPR [4,5]. Currently, the most common method of intubation is a direct laryngoscopy using a Macintosh laryngoscope [6]. However, as studies show, direct laryngoscopy is associated with the failure of intubation in the case of difficult glottis visualizing or during CPR. Therefore, it is important to search for alternative methods of intubation in emergency medicine settings, which is crucial especially for personnel who have insufficient experience in direct laryngoscopy [7].

The aim of this study was to compare the efficacy of the endotracheal intubation performed by nurses using the I-gel as a guide for the

endotracheal tube under of simulated resuscitation settings with/without chest compression.

The study involved nurses working in the Emergency Medical Service or Emergency Departments. Based on the Gawlowski et al. trial methodology [1] all participants before the target study attended the 20-min training on correct airway management using I-gel (I-gel; Intersurgical Ltd., Berkshire, UK) and perform blind intubation using the I-gel as the guide for the endotracheal tube. The study participants for the target intubation used I-gel size of 4 and 6.5 ID endotracheal tube. In order to simulate a patient requiring intubation the MegaCode Kelly™ (Laerdal, Norway) airway management manikin was used. Intubation was performed in two scenarios: Scenario A - intubation in normal airway without chest compressions; Scenario B - intubation in normal airway during continuous chest compression. In order to standardize the quality of chest compressions a chest compression system Lifeline ARM (Defibtech, USA) [8] was used. The study participants were allowed up to three intubation attempts in each scenario.

The study involved 27 nurses. The mean age was 34.5 ± 4.5 years, while the average work experience within the emergency medicine was 8.5 ± 3.5 years. The effectiveness of the first attempt intubation was 96.3% for Scenario A, and 85.1% for Scenario B ($P = 0.084$). The overall efficacy of intubation in both scenarios was 100%. Average intubation time during Scenarios A and B amounted to 18.5 [interquartile range, IQR; 16–20.5] seconds and 19 [IQR; 16–21] seconds ($P = 0.622$).

In this simulation study, nurses have been able to perform blind intubation using I-gel supraglottic airway device as a guide for endotracheal tube with high efficiency. Ongoing chest compression slightly reduces the effectiveness of the first intubation attempt without affecting the duration of the intubation procedure.

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References

- [1] Gawlowski P, Smereka J, Madziala M, Szarpak L, Frass M, Robak O. Comparison of the Macintosh laryngoscope and blind intubation via the iGEL for intubation with cervical spine immobilization: a randomized, crossover, manikin trial. *Am J Emerg Med* 2017; 35(3):484–7.
- [2] Kim JW, Lee KR, Hong DY, Baek KJ, Lee YH, Park SO. Efficacy of various types of laryngoscope (direct, Pentax Airway Scope and GlideScope) for endotracheal intubation in various cervical immobilisation scenarios: a randomised cross-over simulation study. *BMJ Open* Oct. 24 2016;6(10):e011089. <http://dx.doi.org/10.1136/bmjopen-2016-011089>.
- [3] Bielski K, Smereka J, Ladny JR, Szarpak L. A comparison of the Macintosh laryngoscope and blind intubation via I-gel in intubating an entrapped patient: a randomized crossover manikin study. *Am J Emerg Med* Nov. 22 2016. <http://dx.doi.org/10.1016/j.ajem.2016.11.048> [pii: S0735-6757(16)30877-4].
- [4] Smereka J, Czyzewski L, Szarpak L, Ladny JR. Comparison between the TrueView EVO2 PCD and direct laryngoscopy for endotracheal intubation performed by paramedics: preliminary data. *Am J Emerg Med* Nov. 30 2016. <http://dx.doi.org/10.1016/j.ajem.2016.11.063> [pii: S0735-6757(16)30898-1].
- [5] Ladny JR, Sierzantowicz R, Kedziora J, Szarpak L. Comparison of direct and optical laryngoscopy during simulated cardiopulmonary resuscitation. *Am J Emerg Med* March 2017; 35(3):513–4.
- [6] Ladny JR, Smereka J, Szarpak L. Comparison of the Trachway video intubating stylet and Macintosh laryngoscope for endotracheal intubation. Preliminary data. *Am J Emerg Med* April 2017;35(4):574–5.
- [7] Ladny JR, Bielski K, Szarpak L, Cieciel M, Konski R, Smereka J. Are nurses able to perform blind intubation? Randomized comparison of I-gel and laryngeal mask airway. *Am J Emerg Med* Nov. 22 2016. <http://dx.doi.org/10.1016/j.ajem.2016.11.046> [pii: S0735-6757(16)30874-9].

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