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469

### Cost-Effectiveness of Radial Access Percutaneous Coronary Intervention in Acute Coronary Syndrome

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**Objective:** Access site selection for percutaneous coronary intervention (PCI) is correlated with patient outcomes. Clinical trials have shown that radial access PCI is associated with improved patient outcomes compared to femoral artery access in the setting of acute coronary syndrome (ACS). However, few studies have evaluated the cost-effectiveness of radial access PCI. This analysis sought to evaluate the cost-effectiveness of transradial versus transfemoral access PCI for patients with ACS.

**Methods:** A decision analytic Markov model was constructed from an Australian health care perspective with a two year time horizon. The model simulated recurrent cardiovascular disease and death post PCI among a hypothetical cohort of 1,000 individuals with ACS. Population and efficacy data were based on data from the Minimizing Adverse Hemorrhagic Events by Transradial Access Site and Systemic Implementation of Angiox (MATRIX) trial, which compared radial and femoral access. Cost and utility data were drawn from published sources.

**Results:** Over a two-year time horizon, radial access was predicted to save 12 (discounted) quality adjusted life years compared with femoral access PCI. Cost savings (discounted) amounted to AUD \$49,641. Hence, from a health economic point of view, radial access PCI was dominant over femoral access PCI. Sensitivity analyses supported the robustness of these findings.

**Conclusions:** Radial access PCI is likely to be associated with both better outcomes and lower costs compared to femoral access PCI over two years post procedure. These findings support radial access being the preferred approach in PCI for ACS.

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470

### COVID-19 Experience in New South Wales (NSW) - A Case Series

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**Background:** Clinical data on novel coronavirus COVID-19 arising from early cases in Hubei province revealed high incidence of cardiac complications, especially arrhythmias, amongst infected. We present a case series describing the clinical course of three COVID-19 positive patients, which were amongst the first cases of the COVID-19 outbreak in NSW.

**Case 1:** Male in early-80's from nursing home with comorbid ischaemic cardiomyopathy presents with a 3-day history of dyspnoea. Viral swabs confirmed COVID-19. Febrile on presentation with marked elevation in inflammatory markers. 72-hours into admission, patient developed recurrent ventricular tachycardia (VT). Despite maximal supportive and medical therapy, patient deteriorated clinically with increasing VT burden resulting in death.

**Case 2:** Male in mid-50's presents with lethargy, myalgia and a subacute history of low-grade fever. Mild dyspnoea on presentation with subsequent development of profound hypoxia in the ensuing 24-48 hours. Blood tests showed rapid rise in inflammatory markers with renal impairment. Imaging showed widespread interstitial lung changes consistent with acute respiratory distress syndrome. Patient was intubated and bronchial lavage cultures confirmed COVID-19. Patient received anti-viral and corticosteroid therapy with subsequent improvement.

**Case 3:** Female in late-80's from nursing home without significant background history. Reported mild coryzal symptoms but was screened for given close contact with COVID-19 positive patient. Swabs confirmed COVID-19 positivity. 48-hours into admission, patient developed fever which was managed conservatively. Blood tests showed mildly elevated inflammatory markers. She remained otherwise well and was discharged following negative viral testing.

**Conclusion:** COVID-19, recently declared a pandemic, has a highly variable clinical presentation and outcomes.

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