

The role of time delays to definitive surgical management as a risk factor for surgical site infection post appendicectomy at Worcester Hospital

Student: Oostewalt Swart

Supervisor: Tonya Esterhuizen

Background: For patients with acute appendicitis, controversy remains regarding the role of time delays to surgery in determining risk of complicated appendicitis and surgical site infection (SSI).

Methods: Prospective cohort study of the association between time-delay to surgery and SSI in acute appendicitis patients at a rural regional hospital, Western Cape Province, South Africa during 2017.

Results: 188 patients were operated on for acute appendicitis. Median age was 19 years (Range 3-73) with 62.2% male. 41% were managed laparoscopically. 61.7% had complicated appendicitis and the incidence of SSI was 24.5%. Median time delay from symptoms to surgery was 60 hours (IQR 41.75 – 85.5) and from hospital admission to surgery 8 hours (IQR 4 – 16). Time delay from symptoms

to surgery > 72 hours was associated with increased risk of complicated appendicitis (OR 4.32; 95%CI: 1.36 – 13.75; p=0.013). Patients with SSI demonstrated an increased median time delay of 15 hours (p=0.03) compared to those without SSI. Multiple logistic regression analysis showed an increase risk for SSI with complicated appendicitis (OR 5.9; 95%CI: 1.8 – 19.1; p=0.003) and open surgery (OR 7.4; 95%CI: 2.1 – 26.7; p=0.002). No conclusive association was observed between any time delay parameter and SSI in adjusted analysis. Potential effect modification of time delays to surgery on SSI via complicated appendicitis was demonstrated in stratified analysis.

Conclusion: The extended delays to surgery for acute appendicitis seen in LMIC amplify the risk for complicated appendicitis; itself an important risk factor for the development of SSI and other postoperative morbidity