



To measure the percentage rate and risk factors for amendment in the type, duration and setting of outpatient parenteral antimicrobial therapy (OPAT) for the treatment of cellulitis” Quirke et al (2017).

Abstract:

**PURPOSE OF THE STUDY:** To measure the percentage rate and risk factors for amendment in the type, duration and setting of outpatient parenteral antimicrobial therapy (OPAT) for the treatment of cellulitis.

**STUDY DESIGN:** A retrospective cohort study of adult patients receiving OPAT for cellulitis was performed. Treatment amendment (TA) was defined as hospital admission or change in antibiotic therapy in order to achieve clinical response. Multivariable logistic regression (MVLR) and classification and regression tree (CART) analysis were performed.

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**RESULTS:** There were 307 patients enrolled. TA occurred in 36 patients (11.7%). Significant risk factors for TA on MVLR were increased age, increased Numerical Pain Scale Score (NPSS) and immunocompromise. The median OPAT duration was 7 days. Increased age, heart rate and C reactive protein were associated with treatment prolongation. CART analysis selected

age <64.5 years, female gender and NPSS <2.5 in the final model, generating a low-sensitivity (27.8%), high-specificity (97.1%) decision tree.

**CONCLUSIONS:** Increased age, NPSS and immunocompromise were associated with OPAT amendment. These identified risk factors can be used to support an evidence-based approach to patient selection for OPAT in cellulitis. The CART algorithm has good specificity but lacks sensitivity and is shown to be inferior in this study to logistic regression modelling.

Reference:

Quirke, M., Curran, E.M., O’Kelly, P., Moran, R., Daly, E., Aylward, S., McElvaney, G. and Wakai, A. (2017) Risk factors for amendment in type, duration and setting of prescribed outpatient parenteral antimicrobial therapy (OPAT) for adult patients with cellulitis: a retrospective cohort study and CART analysis. *Postgraduate Medical Journal*. September 5th. .

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