Anaesthesia information systems — what do clinicians want?

R. W. D. Nickalls *

Artificial Intelligence in Medicine 2001 (AIME'01) workshop on *Computers in Anaesthesia & Intensive Care*; Cascais, Portugal, July 2001.

Abstract

This talk addresses some of the problems facing anaesthetists, both before and during an anaesthetic. Although much of the relevant technology has been available for a long time, practical anaesthesia information systems which offer useful decision support are still in their infancy. This is partly because appropriate data-bases and communication links are often not available, and partly because anaesthetists have not been very clear about what they want.

Before an anaesthetic the central issues relate to convenient access to text information regarding (a) the patient's medical condition, (b) current literature concerning anaesthetic techniques, drugs, case reports, and (c) relevant anatomical data (e.g., likely depth of the patient's thoracic epidural space).

During an anaesthetic the issues relate to (a) convenient and clear display of real-time measured physiological data, trends, warnings and alarms, (b) derived 'value-added' data (e.g., age-corrected MAC), (c) physiological and pharmacokinetic modeling to help anticipate events (e.g., likely time course of a given dose of a muscle relaxant drug), (d) analysis of complicated data (e.g., visualising ischaemic cardiac zones with multiple surface electrode arrays).

*Department of Anaesthesia, Nottingham University Hospitals, City Hospital Campus, Nottingham, UK. email: dicknickalls@doctors.org.uk web: www.tinyurl.com/dicknickalls