TITLE: PREDICTIVE VALUE OF SKIN TESTS IN THE CHOICE OF ANESTHETIC DRUGS AFTER A FIRST ANAPHYLACTIC REACTION.

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From October 1983 to December 1988, 58 patients were evaluated after a life-threatening anaphylactic reaction during anesthesia. The evaluation consisted of intradermal skin testing with all the drugs used during anesthesia including muscle relaxants, looking for cross allergy, the human basophilic degranulation test (HBDT) for the hypnotics, opiates and neuroleptics, the radio-absorbent test (RAT) for the muscle relaxants. Based on these results, a card was given to patients wich identified the drugs to which they had a positive reaction. The investigation was meant to check the efficiency of the advice given and to answer the following two questions: were the skin tests sufficient to determine the responsable drug and how reliable were they? Did the skin tests to other products have a sufficient discriminative value?

Out of these 58 patients (45 women and 13 men), 57 had a life-threatening reaction to a muscle relaxant: Succinylcholine (37), Gallamine (8), Vecuronium (5), Pancuronium (5) and Alcuronium (1). In two cases a Penthotal allergy was associated and one patient presented a reaction with Dextran.

Patients were subsequently contacted and 50 of the 58 had responded, 18 of these patients had received 22 anesthesias. Without exeption, the advice to avoid a given drug had been followed. 17 patients had a positive reaction to a muscle relaxant, in four of these an other muscle relaxant (skin test negative) was used whithout any trouble. For the other 13 who had shown a cross reactivity, all the muscle relaxants had been rejected and another anesthetic technique had been used: local anesthesia (3), epidural (2) associated or not with narcotics (Propofol, Midazolam), general anesthesia (Propofol, Midazolam, Droperidol, Phenoperidine). These drugs were all skin test negative. For the 22 anesthesias, the advice initially given had been followed and no incident had ever been reported.

On summary, in the 50 out of 58 responders to our questionnaries, the skin test accurately predicted subsequent choice of anesthetics.

A1034

TITLE: PROJECT PEARLS: A METHODOLOGY TO ENHANCE INFORMATION TRANSFER FROM A PRE-ANESTHETIC EVALUATION CLINIC TO THE SURGICAL SUITE

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Not only has the shift to outpatient surgery and day-of-surgery admissions undercut the anesthesiologist's ability to establish a reasonable patient-physician relationship, but pre-anesthetic clinics have created a new problem of reliable transfer of medical and social patient information among members of the anesthesia team. A clinic pre-op evaluation by a colleague is often partially repeated by the anesthesiologist who cares for the patient in the operating room.

The possibility that information technology might enhance the transfer for information is being explored in a two year study called Project Pearls. At the mid-point of the study a methodology for information processing and transfer has been designed and a number of steps in the process have been completed.

Frequently information processing projects in medicine have failed because they required medical personnel to use computer terminals in an environment of noise and interruptions ill suited to the necessary level of attention. Other projects appear to have failed because they were prescriptive without any user recognized authority or rationale. The Project Pearls methodology attempts to avoid these pitfalls by accepting one piece of paper as input and producing another as output. Any advice or insight added by the system carries the name of the author who is a member of the Department.

The name of the interviewer(s) is also part of the report.

Departmental personnel have been encouraged to seed the system with information called "pearls" about common and unusual situations in the operating room from their experience and their reading. The suggested test for deciding if a pearl should be written is, "Did you learn something during this case or during your preparation for this case that would benefit another anesthesiologist in a similar situation?" Pearls have ranged from a method to evaluate potassium levels during intended hyperventilation to a description of a particular surgeon's preference for patient position for rectal surgery. A monthly newsletter has reported on the interesting contributions and kept the staff aware of the system's progress during its development.

The ability of the Pearls methodology to link specific patients with "pearls" of information related to the patients's medical condition, surgery, medications, or laboratory studies, requires the creation of data bases and search algorithms. The central key to the system is a greatly modified version of the ICD-9 classification of diagnoses. The thousands of diagnostic categories in the ICD-9 scheme have been edited and augmented with categories of interest to the planning of an anesthetic along with the common synonyms that practicing anesthesiologists would use to refer to particular conditions. The modified ICD-9 categories can be used to define a particular patient's anesthetic problems that are then used to search for relevant pieces of medical information within the system.

The project is now ready to begin printing pre-anesthetic information sheets for a portion of the patient load. Before production is started an observational study is being done in the O.R. to serve as a baseline to measure the impact of the system. The second year of the project will expand the collection of pearls along with the number of patients processed by the system while seeking to identify the problems inherent in this information transfer method.