Editorial

Computer aid for gastrointestinal endoscopy units

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Apport de l'informatique dans les services d'endoscopie digestive

SUMMARY

The numerous diagnostic and therapeutic procedures being performed in gastrointestinal endoscopy services are often inadequately recorded and not easily available for retrieval and analysis. This data management can only be provided by the use of computer technology. We have found that the modular, powerful minicomputer answers the needs, standing alone or as part of a computer network. The programs are based on a series of menu-driven prepared options allowing on-line data entry with minimal demands on physician's understanding of computer technology or finger dexterity. Standardized reports are immediately available and simple analysis possible. Programs for upper and lower endoscopic examinations and colon tumor screening are in clinical trial and other programs will be added. Future progress in gastrointestinal endoscopy will require the better utilization of existing data by computer assistance.

RESUME

Les nombreux actes diagnostiques et thérapeutiques réalisés dans un service d'endoscopie digestive sont souvent mal enregistrés et difficilement disponibles à des fins d'études et d'analyses. Une gestion correcte des données ne peut être menée qu'avec utilisation de l'informatique. Nous avons pu constater que le mini-ordinateur modulaire, par sa puissance répond tout à fait à nos besoins, qu'il soit utilisé individuellement ou relié à un réseau informatique. Les programmes s'appuient sur une série d'options pré-établies (« menu »), permettant une entrée des données en ligne et ne nécessitant pas de la part de l'opérateur de grandes compétences en matière d'informatique ou de frappe sur clavier. Des compte-rendus standardisés sont disponibles immédiatement ainsi que l'analyse simple. Des programmes pour l'exploration endoscopique du tractus digestif supérieur et inférieur ainsi que pour la détection des tumeurs coliques sont actuellement testés. D'autres programmes complémentaires seront ensuite élaborés. Les progrès à venir en matière d'endoscopie digestive passeront obligatoirement par une meilleure utilisation des données existantes et ce grâce à l'informatique.

INTRODUCTION

For about 30 years computers have been used in medicine for the storage, retrieval and analysis of information and lately in decision-making [7]. During this time, computer equipment « hardware », has become smaller physically, less sensitive to environmental changes, faster in its functions and cheaper to produce [5]. This has led to a change in computer philosophy, away from the large multiuser « mainframe » to small dedicated minicomputers and lately to the microcomputer for personal use. The minicomputer is multiuser and we are now seeing the upgrading of the microcomputer's capabilities by the addition of « hard-discs » and its becoming part of a multiuser network. These constant and rapid changes will probably lead to the building of modular, compatible hardware network systems based on ; a central institutional main frame for back-up, large storage and data manipulations ; a multiuser minicomputer for departmental use ; and, or, microcomputer of very small departmental or individual use.

In spite of these constant improvements in computer technology, gastroentrologists have been slow in introducing computers into their field of medicine [8]. This is inspite of endoscopy being a « high-technology » specialty. Recently, as technological advances in gastrointestinal (G.I.) endoscopy have peaked, it has become apparent that the numerous diagnostic and therapeutic procedures being performed are often inadequately recorded and not easily available for retrieval and analysis. We are therefore not deriving the scientific benefit expected from our « data bank » of endoscopy experience. This data management can only be provided by the use of computer technology [9]. This is practical when the capital outlay is not disproportionate to the costs of the endoscopy instruments and the computer is easy to use and accepted by the medical staff. The minicomputers available, and lately the more powerful microcomputers, answer the hardware needs for a G.I. endoscopy service [5]. This has now allowed us to develop suitable programs, « software », to answer some of the needs of a G.I. department (fig. 1). The following gives a brief outline of our initial experience.

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Figure 1
Flow chart illustrating the various programs being prepared for the endoscopy service.