

Exsys Case Study



Improved Handling of Lung Cancer Patient Medical Information

Knowledge automation expert systems offer the ability to quickly retrieve considerable amounts of information relevant to specific situations. The technology can be potentially very useful to physicians in an era characterized by an explosion of medical data. This system allows a computer user to obtain staging, prognostic and therapeutic information relevant to patients with lung cancer. The program was constructed by utilizing Exsys[®] software and using information from literature. 194 rules were formulated; these rules can be expanded or updated at any time.

The computer user interacting with the system is asked sequential questions regarding:

- ◆ Characteristics of the tumor of a particular patient
- ◆ Nodal status
- ◆ Presence or absence of metastasis
- ◆ How the staging information was derived (clinically or at surgery)
- ◆ Tumor cell type
- ◆ Therapeutic options being considered (different surgical procedures, radiotherapy, chemotherapy and others)

The system selects the appropriate answers and displays the stage of the tumor and relevant prognostic information. The computer user can also examine the rules that were selected by the system. These rules have relevant comments that apply to the specific condition, as well as appropriate references. The user can change all or some of the conditions (i.e., therapeutic options) and compare the results of the various "WHAT-IF" simulations.

