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DIAGNOSTIC PATHOLOGY

ORAL PRESENTATION

From text to information – how could pathologists contribute to free flow of medical information

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Aims

There is an increasing demand for oncological data based on a controlled vocabulary for the use both for pathology and for further processing in applications outside pathology, e.g. for tumor registries. In pathology reports those data are usually hidden in plain text or lacking in parts. Starting with well-known paper-based pathology guidelines the process of developing oncological data elements and their implementation in pathology management systems will be shown.

Methods

Data elements were defined from German pathology report guidelines regarding the ISO 11179 requirements for the relations between data element concepts and their representations as well as for further formal conditions. XML technology was choosen for information exchange. A concept dictionary was used. For implementation in pathology workflow those elements were integrated in computer forms for pathology management systems, which are able to export information as data elements together with metadata information. One hundred cases of colorectal cancers from the years 2007 and 2008 were used to check the completeness of pathohistological diagnoses in terms of the guideline as well as to test the user-friendliness of the forms.

Results

For the guideline-oriented description of colorectal resection specimens a minimum of 38 data elements, compatible with ISO 11179, have been developed. They are based on 38 data element concepts which they are bridging with the same number of value domains for the definition of valid data structure of each element. Only 16 out of them have exactly matching concepts in the NCI metathesaurus, further 11 were found with partly conceptual coincidence. The majority of value domains are of enumerated-value-type, i.e. are defined as concepts again. The tests on written diagnoses showed their principal usability and an increasing degree of guideline conformity of diagnoses.

Conclusions

The set of oncological data elements is a valuable checklist tool for pathologists enabling the automated formatted information export for further usage outside pathology, saving documentation effort in oncology, improving scientific evaluability and interlingual information exchange. For a fully automated information exchange much more have to be done in semantics and computer ontology.

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