



ORAL PRESENTATION

Server-based teleconsultation in lung pathology

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Teleconsultation in pathology can be performed using different modes. We can choose between live or still image, between interactive and store and forward. Each of the proposed modalities has its pros and cons, depending on the application, needs and technical prerequisites we are dealing with. We can also use different platforms one of which is a server – based system. There are different elements influencing our choice. In most instances dealing with peer and/or expert consultation a store and forward, server-based approach has proven to be advantageous. Through this approach we can enable a relatively quick but user (consulting and consultant) friendly exchange of information. We established a teleconsultation project between the Institute of Pathology Zagreb, being the diagnostic base for the clinic for chest diseases, and the UICC_TPCC Charite Berlin. With years long experience in different approaches to teleconsultation service both institutions engaged in the testing of an already operational server-based system (ISSA/Pharos). This system serves as both, a patient database and a teleconsultation tool enabling storage and exchange of all patient data, including images of different origin. We tested the system on different types of biopsies, especially on bronchoscopy specimens. The system consists of two parts – the ISSA system is a server – based patient database allowing storage and access of all patient data, including images. The data can be accessed either by random search descriptors, by name or ID number. In the teleconsultation process the whole patient file is transferred, via internet, to the consultant. This, in turn opens the file, reviews the images and writes his opinion in the adequate space. By returning the exam the consultation automatically appears in the patient file of the requesting pathologist. This mode of operation is time-preserving, reliable and secure, adding up to the quality of diagnosis.

Several years ago the idea of placing the databank in the center of telemedical endeavor seemed quite unorthodox. Databases or image databanks were designed to enable the storage of patient images in the beginning from one type and later from different sources. With time the idea evolved that modern concepts should not only be limited to image storage and retrieval but enable the storage of all relevant digital or non-digital information needed for patient diagnosis, treatment, follow-up or consultation as well as for later statistical or epidemiological evaluation. The introduction of CIMS (Clinical Image Management Systems) a tool is created, which combines patient demographic data, clinical data, examination data as well as images collected in examinations. In this way electronic patient records are created. In telemedicine application electronic patient records can be moved from point to point in medical service workflow. Following this idea databases are created containing integrative patient records instead of respective examination data. These databases also should allow easy data transfer via Internet or some other means. All the data must be stored safely, and allow stable retrieval. Compliance of such databases to standards (such as DICOM) is mandatory. The evolution of this idea can be followed through the evolution of the database ISSA and telemedicine system Pharos (VAMSTech, Zagreb). They developed from two separate entities with the possibility of exchanging data and images to an integrated system where each element can be run individually or the telemedicine part can be used as a transfer tool serving the database. We can say that the database moved to the coast of the communication sea. A logical step further was to immerse it into the sea. It was done by introducing a web server (ISSA Web server) allowing for creation of patient databases which can then be assessed from any computer linked to the Internet. So

now we have a vast number of options how to proceed with our patient integrative record. We can transfer our patient record, containing all data, point to point (using ISSA-Pharos system) or put it on the ISSA Web server (for consultation) or mail it as e-mail attachment (to the family doctor) or put it on a CD (which the patient can car with him). A few years ago The Croatian telemedicine server moved from the TELECOM to the Medical Faculty University of Zagreb and its new address is: telemed.mef.hr.

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