TELEMEDICINE IN DAILY PRACTICE –
HOW AND WHAT FOR?
(PRACTICAL RESULTS)

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Teleconsultation

(remote/distant advising/consultation)

remote discussion of the clinical case to get answers to precisely formulated questions for the help in clinical decisions

Why we need teleconsultations?

How telemedicine influence to diseases?
- multicentral blind researches of efficiency of various telemedical technologies

- accumulation of databases of best practice models with development of methodical bases for selection of the most effective model

- development of complex techniques for an estimation of efficiency of the telemedicine

- the methodical help in decision-making

Evidence-based Telemedicine
Best Practice Models

Results of Multicentral R&D

Complex Methods of Telemedicine Efficiency Investigations

Unique economical, medical, social, geographical etc conditions

Recommendations about creation of work station, software, documentation etc

Decision Making
Main points of telemedicine consultation

1. Send remote expert digital medical information about patients with maximal high diagnostic accuracy and with minimal volume

2. Orginase an effective feedback
Digitalisation of medical information

Sending information to remote expert

Additional questions. Sending of additional data

Answer receiving

Notification about results
Digitalisation of medical information

Sending information to remote expert

Additional questions. Sending of additional data

Answer receiving

Notification about results

Equipment (work stations)

Telecommunication (data bearer)

Methods for quality estimation
Almost any computer and telecommunication technology/tool is possible to use in telemedicine.
CHOICE OF TECHNOLOGY

Targets
- Clinical problems
- Care availability
- Special care experts
- Etc...

Geography
- Distances
- Geography peculiarities
- Mobility
- Etc...

Resources
- Available equipment and communication
- Budget
- Economical efficiency
- Etc...

Psychology
- Readiness of staff
- Readiness of patients
- «Direction» of work
- Etc...
49 person (male - 23, female - 26), age from 2 days to 77 years

- Serious injury of bone, skull, wounds
- Bone+Neuro+Abdomen/Thorax injuries
- Congenital abnormalities of locomotorium, hip osteoarthritis etc
Medical records

Epicrisis (.doc, .txt) - short text with description of patients
Visualisation (.jpeg) – digital x-rays, CTs, pictures of locus morbi

Safety = Anonymity
Last decision = attending physician
Average duration of teleconsultations and Technologies

Synchronous – 28.5 min.
- Skype + E-mail
- MMS
- SMS + E-mail

Asynchronous – 35 hours
- Web-platforms
- E-mail
- Mailing lists
Technologies for telemedicine consultations

1. Internet
   - e-mail
   - professional mailing lists
   - www-forums
   - chats and messengers (ICQ)
   - wireless devices and software
   - special telemedicine applications

2. Mobile and Cellular
   - SMS with voice
   - MMS with voice
   - Voice only

3. Videoconferences
   - Internet (IP, NetMeeting)
   - special lines (ISDN etc)
Regional, town and rural hospitals from a few regions of Ukraine

EU, Russia, USA, Australia

3 rural hospitals, 2 town hospitals
From Donetsk region
International teleconsultations – peculiarities of surgical treatment

Intra-Regional teleconsultations...

Geography and demography peculiarities

High concentration of special care hospitals and experts in regional center

Lack of staff in rural

Low level of care

Dangerous and unnecessary transportations

Non-rational usage of advisers

Prolonged care
«Bringing» of care

Help in rational decision making

Increasing of care

Special tele-curation

Economical benefits for system and patients

Comfort
Only 25% of patients really needs treatment in Regional Hospital!

Bad:

Dangerous transportation

Economical expenditure

«Ballast»
Efficiency of Teleconsultations

Relevance

Relevance of teleconsultation - conformity of the distant adviser’s answer to information and medical needs of the attending physician (subscriber)

Questionnaires for definition of relevance
(Another presentation at Med-e-Tel 2007)

Clinical outcomes

Anatomical and functional results of treatment

Harris scale, SF-36 etc
2 days boy from rural hospital

RESULTS:
High relevancy
Treatment in rural hospital
Excellent outcomes
Conclusions

1. Correct decision making in telemedicine – direct way for efficient telemedicine services

2. Our recommendations and support for decision makers are useful and shows good results

3. Quality of teleconsultations (experts’ advices) are very good (high relevance - 51%, medium – 49%, low – 0%)

4. Teleconsultation has positive influence to clinical outcomes (excellent - 24%, good - 49%, satisfactory - 27%)

5. Due to teleconsultation the quantity of transportations between rural and regional hospitals has decreased on 75%

Thus, correctly organized teleconsultation is efficient and has positive influence to clinical practice...
THANK YOU VERY MUCH!

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