

**Meeting of the WHO Informal Working Group on Echinococcosis (IWGE)
on the occasion of the XXIV International Congress of Hydatidology**

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Summary report

Peter Kern (IWGE Coordinator, Ulm, Germany) opened the meeting and welcomed the participants from China and the many other countries. Peter Kern was assisted by François Meslin (WHO, Geneva, Switzerland), Patrick Giraudoux (Besançon, France) and Yu Rong Yang (Yinchuan, Ningxia, China).

Agenda

Topic 1: The IWGE	François Meslin
Topic 2: Update on control guidelines	Philip S Craig
Topic 3: EG95 vaccine research protocol	Marshall Lightowlers
Topic 4: COST proposal "One health"	Mar Siles-Lucas
Topic 5: Next clinical guidelines?	Enrico Brunetti
Topic 6: Proposed IWGE plan of work	Peter Kern

Topic 1: The IWGE (François Meslin)

Dr Meslin presented an overview of the IWGE, starting with its history (1985 to date) and its past and current coordinators. The IWGE aims to facilitate cooperation between different groups working in specialized areas related to echinococcosis; and to assist WHO by establishing networks and bringing relevant findings to its attention. He described the *modus operandi* (nomination of the coordinator and coordinating board, duration of term, etc). Proposals for establishing a new network should be made to the coordinating board under the IWGE Coordinator and/or the WHO collaborating centres (Pavia, Besançon, Perth). Any finding that may lead to a revision or updating of existing international classification/standards or major recommendations for treatment, prevention and control should be submitted to WHO for review through the Coordinator.

Documents produced by the IWGE over time include the following:

1996. Guidelines for the treatment of cystic and alveolar echinococcosis in humans. *Bulletin of the World Health Organization*, 74, 231–242.

2001. Eckert J et al (eds.). *WHO/OIE manual on echinococcosis in humans and animals: a public health problem of global concern*.

2001. *PAIR: Puncture, Aspiration, Injection, Re-Aspiration: an option for the treatment of cystic echinococcosis* [WHO guidelines]. Geneva, World Health Organization (WHO/CDS/CSR/APH/2001.6).

2005. US classification in CE. *Acta Tropica*, 85, 253–251.

2006. Kern P et al. WHO classification of alveolar echinococcosis: principles and application. *Parasitology International*, 55 suppl:S283-7.

2007. Consensus meeting in Besançon and Salines Royales d'Arc et Senans, France.

2010. Expert consensus for the diagnosis and treatment of cystic and alveolar echinococcosis in humans. *Acta Tropica*, 114(1):1–16.

Dr Meslin sees a bright future for the IWGE. Echinococcus is now accepted within WHO's Department of Control of Neglected Tropical Diseases, and Peter Kern has been officially endorsed as the new coordinator by the University of Ulm.

On behalf of WHO, Dr Meslin thanked the past coordinators for their work and Peter Kern for accepting to lead the group for the years to come.

Topic 2: Update on the guidelines for echinococcosis control in animals (Philip Craig)

Philip Craig presented the current status of the guidelines. The proposed editors are PS Craig, DD Heath, P Torgerson, T Romig, M Vassalos and F Meslin. The guidelines were conceived at the IWGE's meeting at the IHA Congress in Athens in 2007. A draft version was discussed at a meeting held in Geneva, Switzerland, on 22–23 June 2011 at which considerable improvements were recommended; modifications are currently being brought in.

The guidelines are divided into 9 chapters and 2 sections (A on cystic echinococcosis (CE), and B on alveolar echinococcosis (AE)). The chapter titles are as follows:

1. Introduction
2. Background for consideration of CE control interventions
3. Baseline data collection and surveillance for CE
4. Control/intervention tools for CE
5. Options, phases and management of CE control
6. Control simulation models
7. Background for consideration of *E. multilocularis* control
8. Surveillance and control definitions for *E. multilocularis*/AE
9. Control tools and options for *E. multilocularis*.

The guidelines will be supplemented by an appendix containing short action points for control, and the definition of CE elimination. The document needs further work by all authors. A section on the “One health” concept will be added. Since the full document will be long, it was suggested adding a 10-pager containing key points for easy reference.

Topic 3: Proposal for an EG95 vaccine protocol (Marshall Lightowlers)

Experimental evidence shows that the EG95 vaccine protects intermediate host species against infectious challenge in controlled small-scale trials. However, further scientific evidence is needed on use of EG95 in larger scale studies carried out under real field conditions. These studies should demonstrate that the vaccine can be used in an effective, simple, inexpensive and sustainable way. Marshall Lightowlers first presented such a protocol to the IWGE meeting held in Geneva in June 2011 for review; the outcome of this discussion was presented to the audience in Urumqi. He detailed the various test groups required for such a study, outlined the difficulties and obstacles, and provided the numbers required to achieve statistical power and duration (several years). The project represents an integrated effort involving sheep vaccination with EG95 with or without dog deworming with praziquantel. Participants in this IWGE meeting were asked if they were supporting the initiation of such a project. China, Kyrgyzstan, Peru and Tunisia have expressed interest in hosting such a trial.

Topic 4: COST proposal “One Health” (Mar Siles)

Mar Siles provided information on a funding proposal she will submit to the European Framework for Cooperation in Science and Technology by the end of September 2011. This European Union framework programme funds meetings of field researchers on a specific subject, and promotes networking and cooperation within and outside the European Union. If selected, this proposal will result in a better understanding of the epidemiology of CE in Europe, in improved diagnostics in human and animal patients, and better management of clinical CE. Up to now, 47 participants in 17 countries have agreed to participate in this proposal, as well as experts from the United States, Peru, Argentina, Morocco, Australia, New Zealand and China. Participants come from health organizations, national health services, research laboratories, hospitals and reference laboratories. It involves basic and applied researchers, medical doctors, veterinarians, policy makers, immunologists, molecular biologists and epidemiologists. The aims are the following:

1. Sharing information, data and samples from animal intermediate hosts and human CE cases as well as faecal samples from canid definitive hosts, and developing respective standardized databases for their record.
2. Defining state-of-the-art tools for diagnosis and identification of the parasite in humans and animals.
3. Improving the detection, diagnosis and follow-up of CE in human and livestock intermediate hosts and *E. granulosus* infection in canid definitive hosts by standardizing epidemiological/mathematical modeling and molecular tools.
4. Managing and transferring common and standardized tools with/to the scientific community, policy-makers and reference centres.

Mar Siles also presented a set of deliverables, work packages and working groups. It has been agreed with WHO to include this as an IWGE network and activity. People who are interested in participating in this COST-application should contact her immediately. The deadline for submission of the proposal is the end of September.

Topic 5: Next clinical guidelines? (Enrico Brunetti)

The last guidelines were published in 2010 as the *Expert consensus for the diagnosis and treatment of cystic and alveolar echinococcosis in humans* in *Acta Tropica* (114(1):1–16). However this publication is not freely available online. There is therefore a need to prepare updated treatment guidelines which would be accessible to all. An editorial group needs to be formed and interested individuals should contact Enrico Brunetti.

Topic 6: Proposed IWGE plan of work (Peter Kern)

Peter Kern provided an overview and proposed ideas to carry out new IWGE activities:

- The three subgroups which were formed in Colonia/Uruguay deal with (i) control issues, (ii) clinical issues, and (iii) pathobiology of *Echinococcus*. They will continue their activities.
- An IWGE communication platform is needed. The establishment of a website does not seem feasible in the short run as there is no financial support for it and websites are known to be labour-intensive if not maintained. Other platforms such as LinkedIn or facebook could be suitable alternative options. Dominique Vuitton indicated that a web site is under construction at the WHO Collaborating Centre on Echinococcosis in Besançon (France), which should be operational in 2012. This site could host the IWGE. Wen Hao mentioned an interest and possible support from the Chinese Government towards the establishment of an IWGE web site.
- Advocating for echinococcosis as a neglected disease and for its prevention and control as a route to poverty alleviation should be more aggressively advocated in meetings by IWGE members (e.g. possibly with a stand), and also in review articles and other echinococcosis publications.
- The IWGE should establish links and collaborate closely with existing Echinococcosis research consortia (e.g. CESSAR*i*, EchinoNet).
- The IWGE should build an echinococcosis Atlas similar to the Atlas on Trachoma developed by the International Coalition for Trachoma control (ITCT).
- The IWGE should set specific 2020 goals for itself: these could include:
 - (i) delivering final conclusions on the value of the EG95 vaccine;
 - (ii) assessing the safety and efficacy of an albendazole combination treatment (project tentatively named EchinoACT);
 - (iii) creating a research and development pipeline for novel compounds for echinococcosis prevention and treatment;
 - (iv) establishing a working relationship with DND*i*.

Discussion

- As an additional activity, it was suggested that the IWGE members collectively help improve existing Wikipedia sites on echinococcosis (in English at <http://en.wikipedia.org/wiki/Echinococcosis> and in French at <http://en.wikipedia.org/wiki/Echinococcose>). Patrick Giraudoux is ready to act as lead for that activity.
- A firm deadline for the submission of the guidelines for CE and AE control in animals is required. It was agreed with the principal editor that a revised version will be ready at the end of this year for final review by the board of editors and presentation at the next IHA and IWEG meetings in Sudan in 2013.
- The participants are supportive to the EG95 draft protocol. More detailed protocols and appropriate funding are still needed for each potential site. It was stressed that the trials should be conducted in areas with good infrastructure, sufficient veterinary staff and effective disease surveillance.

Dr Kern concluded the meeting by thanking all participants for their contributions and constructive discussion.