

Claus Peter Polster, Senior Safety Officer for the Organisation for the Prohibition of Chemical Weapons, reviews the 9th International Course on Medical Defence against Chemical Weapons in Iran, which offered participants a unique opportunity to study first-hand the effects of chemical warfare agents on human victims

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On 9 November 2008 the 9th Course on Medical Defence against Chemical Weapons was successfully concluded. Twenty-two medical doctors from 21 member states of the Chemical Weapons Convention had the unique opportunity to participate in a training course which involved lectures about the basics of defence against chemical weapons and allowed them to examine and interview patients who have actually been exposed to nerve and blister agents during the Iraq-Iran war.

Since 1999, this course has been conducted in the International Medical Centre for Training and Treatment – Chemical Weapons in Tehran, Islamic Republic of Iran, with the warm-hearted and generous support of the National Authority of Iran and many Iranian Doctors who treated chemical casualties in the battlefield, often risking their own lives, and who still provide medical care for the survivors. During the war which continued from 1980 until 1988, the Islamic Republic of Iran was repeatedly attacked by the Iraqi regime with nerve agents and mustard gas. These attacks were often indiscriminate, and caused more than 100,000 casualties, both military and civilian. Of these casualties, an estimated 20,000 died immediately or in the following days and weeks after terrible suffering. 34,000 survivors are, according to the Veterans Foundation Janbazan, still suffering from the long-term effects of exposure to chemical warfare agents, and the majority of these patients are in active follow-up. In recent times, therefore, Iran has suffered most from the use of these weapons. To help prevent the re-occurrence of such suffering, Iranian doctors and their patients have given their time to share their experiences and expertise with medical specialists from all over the world.

The four-day course included lectures about chemical weapons and the OPCW, ways to recognise a chemical attack, means of detection, protective equipment and decontamination. The aim of these technical presentations is to give medical doctors with limited or no knowledge about chemical warfare a deeper understanding of the technical background. This then helps to provide the participants with knowledge about how to protect themselves against chemical weapons, both from contaminated patients or in the case of a chemical incident itself. These lectures were given by specialists from the Technical Secretariat's Health and Safety Branch. Experts from the Assistance and Protection Branch also provided information about the efforts of the OPCW to assist member states should they ever be threatened or actually attacked with chemical weapons.

Following the technical introduction, the course moved into the clinical phase. Iranian doctors shared their vast experience and expertise of acute and chronic effects of chemical weapons on the eyes, the skin and the lungs. A high-level expert from the German Armed Forces Institute for Toxicology in Munich held lectures about the current status and the latest research on the pathology of nerve and blister agent poisonings.

Having completed lectures on the technical and clinical aspects of chemical weapons and their effects, the participants then had an opportunity to move into patient contact for two days – the genuinely unique part of this course. Here, the term “unique” is not used lightly – as far as this author is aware this joint OPCW-IMCTT-CW course is the only opportunity in the world for physicians outside Iran to interview and examine from ten-to-15 different victims of significant chemical

weapons exposure in the one course.

The clinical component comprises two aspects – interviewing skills (specifically as they relate to chemical weapons exposures), and hands-on clinical examinations. Interviewing CW victims was presented from two aspects. The first was common to many medical interviews – the development of signs and symptoms after exposure, the effects of treatment so far and the current state of disability from the illness. The second aspect was of an interview starting from the point of view of not knowing whether the illness was from a CW agent or not. This interview needs a different set of skills – namely forensic interviewing techniques, which the general physician is normally not familiar with. Part of the training course is to provide the participants with a basic understanding of these interview techniques which may help them to participate in the investigation should a chemical release with casualties occur in their home countries. Quite often it will not be possible to get clear results from sampling and analysis, or it might not even be clear where to start to look for evidence. In these cases the importance of eye witness accounts cannot be stressed enough; they may be the only clue an investigator initially has. Knowing how to assess these accounts and how to distinguish between hearsay and true accounts is an invaluable skill for the medical personnel should they be involved in an investigation.

The participants conducted long interviews with CW victims in small groups and then presented their findings. It was, for all of us, a sober experience to see and speak with people who have suffered so much from the chronic effects of chemical weapons in the last 20 years, and whose greatest wish is that nobody ever should suffer

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like them again. The main benefit for the participants was the opportunity to hear eye-witness accounts of chemical attacks, signs and symptoms of exposure and compare those with the descriptions in text books and given by the lecturers. Interestingly, quite often the symptoms are not as clear-cut or profound as text books would suggest. Sometimes the stories told, and the additional information given by the doctors or wives who were also present during the interviews, help the participants to get a clearer

understanding of the complexity of these injuries and help to put textbook information into context. Although some of the information given by the eye witnesses may be influenced by things they read or heard since the events, and considering their recollection of the incidents has most probably changed over the last 20 years, it is still possible to get a clear picture of those events during the Iran Iraq war.

The final component to the course involved clinical examinations. These focused on the chronic findings

following exposure to mustard agents, and which match the main acute symptoms seen – in the skin, eyes and lungs. Participants had the opportunity to examine the dry, scarred or pigmented skin changes, and to see first-hand the characteristic distribution of these lesions. Through slit lamp examination, the various stages of eye damage were able to be reviewed in detail – from minor scarring to complete blindness. The treatments could also be seen – corneal transplants through to limbal stem cell transfers. Patients with disabling respiratory damage were also reviewed, both through physical examination and via lung function tests.

While the chronic effects of mustard exposure form the basis of the work of Iranian physicians today, nerve agents remain a significant threat. For nerve agents, the surviving casualties do not show any long-term effects which could be clearly connected to the exposure. With no chronic findings in victims from the Iran-Iraq war, and no recent cases, there is the risk therefore that the skills and subtleties in treating such exposures could be lost. To address this for both their own medical students and also the participants of the training course, the IMCTT have developed a computerised simulation of the exposure to phosphor-organic cholinesterase inhibitors. This has been done by Dr Foroutan, who had extensive experience in the field with treatment of CW victims. The participants had the opportunity to test their knowledge about signs and symptoms, as well as possible treatment protocols with this on-line tool, and to speak in person with Dr Foroutan to gain further insights.

The combination of state-of-the-art information about chemical protection, interviews and examinations of eye witnesses and consultations with doctors who actually treated casualties of chemical warfare agents made the 9th Course a successful event. All of the participants enjoyed the gracious hospitality of the Iranian National Authority and the medical and support staff of the IMCTT-CW. Although the programme was very tightly packed, we also got a chance to see a glimpse of the beautiful country of Iran, knowing that we are always welcome there.