INTERNATIONAL CONFERENCE: “RENAL ASPECTS OF DISASTER RELIEF”, OHRID, R. MACEDONIA, MAY 24–26, 1996

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ABSTRACT

The International Conference Renal Aspects of Disaster Relief, Ohrid, R. Macedonia, May 24–26, 1996 united doctors and engineers in order to better build settlements, and in case of an earthquake, how to help the injured.

Plans have been proposed for the treatment of the injured with fluid and dialysis, as well as how to organize the non-governmental organizations and the population to assist the medical staff in optimizing the treatment of the injured.

Members of the Renal Disaster Relief Task Force of the International Society of Nephrology and the European Renal Best Practice were tasked with preparing guidelines for medical staff and the population to address earthquake injuries.

Keywords: Renal Aspects of Disaster Relief, earthquake, trauma, crush syndrome, dialysis

On July 26, 1963 the citizens of Skopje experienced a catastrophic earthquake. Many people lost their lives, even more were injured. The city was badly damaged. Ruined houses could be seen everywhere. The author of this text, as a young doctor, watched the tragedies of the people. He fought and tried with other colleagues and people to help and to save, as much as possible, many unhappy, injured people.

Citizens with damaged kidneys were treated at the Clinic for Internal Diseases at the Medical Faculty. In some patients the kidneys have acutely failed and they have died of renal failure. At that time we did not have the opportunity to treat these patients with an “artificial kidney”.

With the help of the people of the former Yugoslavia, but also of the international community, Skopje was rebuilt into a new and modern city and has become a symbol of the international solidarity.

Skopje and other cities in Macedonia have suffered from earthquakes in the past.

Earthquakes, but also other natural disasters in the world have killed, injured people in the past and nowadays. Often the urinary system and kidneys were damaged and acute renal failure developed which, without treatment with an artificial kidney, could have resulted in death.

“In the first decade of this century 3,852 disasters killed more than 780,000 people, affected more than 2 billion others and cost more than 960 billion USD” [1].

“Unlike hurricanes, tornadoes, floods and volcanic eruptions, earthquakes are completely unpredictable; the death toll can be decreased only by optimizing treatment of injured victims” [2].

“Crush syndrome is the most frequent cause of death after earthquakes, apart from trauma” [3, 4].

The Clinic for Internal Medicine at the Medical Faculty in Skopje since 1965 has been able to treat patients with acute renal failure with an “artificial kidney” with hemodialysis.

Fig. 1

*Welcome to the International Conference on
Renal Aspects of Disaster Relief,
Ohrid, R. Macedonia, May 24 - 26, 1996*

Welcome to Macedonia and Ohrid

The Republic of Macedonia proclaimed its independence on September 8, 1991, becoming the only republic of former Yugoslavia to secede peacefully. It is a land of sunshine, lakes, valleys and mountains, a country with long history and tradition. It is situated in the southern part of the Balkan Peninsula on the trade routes that have connected Europe, Asia and Africa for thousands of years. Macedonia has a population of two million, almost half under 30 years old, and covers an area of 25.713 sq km (10.070 sq miles). Because of the size it is usually compared to the state of Vermont, which recently became a sister state to Macedonia.

Skopje is the capital of the country and the main administrative, economic and cultural centre with 500.000 inhabitants. In 1963 Skopje was devastated by a catastrophic earthquake. With the help of the international community the city was rebuilt becoming a new and modern city - the symbol of international solidarity. Many ancient Macedonian towns, such as Scupi, Stobi, Heraklea have suffered destruction by the earthquakes through the centuries making Macedonia a paradigm for an earthquake prone area.

The town of Ohrid on the Lake Ohrid is the main tourist resort of Macedonia, situated 172 km from Skopje (two and a half hours easy drive). It represents a pearl of an old architecture and treasures valuable cultural and historical monuments. The beginnings of the town date since the second century AD, with its first recorded name Lychnidos. Its Slavic name Ahrida appears six centuries later. In the ninth century Ohrid was a cradle of Slavic literacy; Clement and Naum, disciples of the first Slav educators Cyril and Methodius, founded in Ohrid the first Slav school for high learning. The centuries of tradition and culture have left Ohrid with many sights, such as the Old fortress, the old part of the town, and more than thirty medieval churches with outstanding frescoes and icons. Lake Ohrid is also known as a "museum of living fossils" because it preserves relict fauna dating millions of years. Ohrid and Lake Ohrid are protected under the United Nations register of World Values as an outstanding environment.

Ohrid is the site of the first University on the Balkan Peninsula. Along crystal-clear waters of the lake and endless sandy beaches, modern hotels rise like a string of pearls. In the district Old Bazaar craftsmen still ply ancient trades. The narrow streets are enriched with old world-famous churches, beautifully painted frescoes and icons. Ohrid hosts many international festivals, meetings and conferences and is host to the Balkan Festival of Original Folk Songs and Dances.

Best wishes

Momir Polenakovic

Kim Solcz

Fig. 2

The commemoration of the catastrophic earthquake in Skopje in 1963, as well as the daily earthquakes and other natural disasters around the world were the occasion to propose to the Commission of Acute Renal Failure of the International Society of Nephrology (ISN) to organize an International Conference for Renal Aspects of Disaster Relief in R. Macedonia.

The leadership of the Commission of Acute Renal Failure of ISN proposed to the members of Macedonian Society of Nephrology, Dialysis, Transplantation and Artificial Organs (MSND-TAO) to hold the conference in May 1996.

The ISN has proposed that the Council on Dialysis of the National Kidney Foundation be included in the organization and that a Scientific Committee of the Conference be selected to prepare the program.

Prominent nephrologists were selected in the Scientific Committee of the Conference, such as: A. Collins, Minneapolis, USA; M. De Broe, Antwerpen, Belgium; G. Eknoyan, Houston, USA; W. Finn, Chapel Hill, USA; N. Lameire, Gent, Belgium; J. Letteri, Freeport, USA; S. Massry, Los Angeles, USA; M. Polenakovic, Skopje, R. Macedonia; S. Shasha, Nahariya, Israel; K. Solez, Edmonton, Canada.

It was agreed that the Conference would last for two days.

The topic of the first day was: The Context and General Aspects of Disasters, and of the second day was: Approach to Renal Failure in Disasters.

Renowned experts interdisciplinarily presented their experiences, orally and as a poster.

We present the papers by topic and by days.

Day one – topic The Context and General Aspects of Disasters:

Eric Noji, Atlanta, USA: Natural Disasters in Perspective: Disaster-Prone Regions of the World; Brent Burkholder, Atlanta, USA: Medical and Health Impact of Complex Emergencies; Solveig Thorvald, Reykjavik, Iceland: Architectural and Engineering Issues in Disasters: The Collapse-Prone Building; Brian Flynn, Rockville, USA: Psychological Issues in Natural Disasters; Dimitar Jurukovski, Skopje, R. Macedonia: Earthquake Consequences and Measures for Reduction of Seismic Risk; Takashi Ukai, Osaka, Japan: The Great Hanshin Earthquake and the Problems on Emergency Medical Care; Iraj Nadjafi, Tehran, Iran: The 1990 Iran Earthquake; James Tattersall, Stevenage, UK: The Armenian Earthquake.

Fig. 3. Participants at the International Conference Renal Aspects of Disaster Relief, May 24–26, 1996 – Second from left K. Solez (Canada), G. Eknoyan (USA), Archbishop Mihail (Republic of Macedonia), M. Polenakovic (Republic of Macedonia), S. Massry (USA), O. Stojceva (Republic of Macedonia) and B. Polenakovic (Republic of Macedonia)

Fig. 4. *Participants at the Conference with K. Gligorov, President of the Republic of Macedonia*

In the panel discussion on the topic Geopolitical and Cultural Issues Impeding International Relief Efforts Following Natural Disasters participated: Kim Solez, Edmonton, Canada;

Allan Collins, Minneapolis, USA; Norbert Lam-eire, Gent, Belgium; Shaul Massry, Los Angeles, USA; Eric Noji, Atlanta, USA.

Fig. 5. *M. Polenakovic at the opening ceremony of the Conference*

In reviewing and guiding through the 17 posters on the topic Relief Plans and Posters Depicting Natural Disasters participated: K. Solez, Edmonton, Canada; G. Eknoyan, Houston, USA; J. Letteri, Freeport, USA; N. Lameire, Gent, Belgium and M. Polenakovic, Skopje, R. Macedonia. Each poster was presented and discussed. The following posters were presented:

1. Experiences with Crush Syndrome During Skoplje Catastrophe – S. Susa Belgrade, SR Yugoslavia

2. Acute Renal Insufficiency in Burns – S. Susa, Belgrade, SR Yugoslavia

3. Yugoslavia at Civil War – Aid to the Pre-existing Dialysis Network – C. Antoine, Paris, France

4. Health-Care Response Capacity to Large Earthquake Demands in Republic of Macedonia – Z. Milutinovic, Skopje, R. Macedonia

5. Disaster-Proneess of R. Macedonia - Z. Milutinovic, Skopje, R. Macedonia

6. Disaster Preparedness and Emergency Response Capacity of Macedonian Red Cross - A. Nikolovski, Skopje, R. Macedonia

7. Renal Aspects of Earthquakes in Developing Areas: Lessons from the Dinar Experience – C. Gokce, Izmir, Turkey

8. Projected Images of the Inevitable: A Major Earthquake in Istanbul or Izmir – C. Gokce, Izmir, Turkey

9. Therapeutic Potential of the CAVH for Treating Patients with ARF and Multiple Organ Failure – Tz. Velkowsky, Sofia, Bulgaria

10. Evaluation of a Portable High Capacity Reverse Osmosis Water Purification Unit (ROW-PU) for Preparation of Hemodialysis (HD) Water from a Contaminated Source – J. Kaufhold, Dayton, USA

11. Post-Traumatic Acute Renal Failure: Our Experience in Albania – N. Thereska. Tirana, Albania

12. A New Technological Approach to the Treatment of Acute Renal Failure – M. Manns, Oberursel, Germany

13. Treating Uremic Patients During War-time in Croatia – N. Jankovic, Zagreb, Croatia

14. Acute and Chronic Renal Failure Patients Should not Be Treated at the Place of Disaster – S. Cala, Zagreb, Croatia

15. Clinical Study on the Effect of Blood Purification on Crush Syndrome - An Analysis of 23 Cases Caused by the Great Hanshin Earthquake – T. Shigemoto, Osaka, Japan

16. Crush and Compartment Syndrome and Acute Renal Failure – V. Ostric, Belgrade, SR Yugoslavia

17. Post-traumatic Acute Renal Failure – M. Vasilevskaja, Vilnius, Lithuania.

Fig. 6. *Participants at the Conference*

The topic of the second day of the Conference was Approach to Renal Failure in Disasters. Presentations were delivered by: Kim Solez, Edmonton, Canada: Overview of Acute Renal Failure in the Disaster Setting; Ori Better and I. Rubinstein, Haifa, Israel: Prevention of Crush Injury Induced Acute Renal Failure; Allan Collins, Minneapolis, USA: A Review of the Problems and Logistics of Disaster Relief; Norbert Lameire, Gent, Belgium: The Disaster Response Plan

for Western Europe; Joseph Letteri, Freeport, USA: The National Kidney Foundation's Disaster Response Plan for Chronic Dialysis Patients, Hospitals and Free-Standing Dialysis Units.

In the panel discussion on Hemodialysis in the Disaster Setting participated: Kim Solez, Edmonton, Canada; Allan Collins, Minneapolis, USA; Norbert Lameire, Gent, Belgium and Garabed Eknayan, Houston, USA.

Fig. 7. *I. Filipce, Minister of Health of the Republic of Macedonia, at the opening ceremony of the Conference*

Fig. 8. *G. Eknayan, (USA) at the opening ceremony of the Conference*

K. Solez, Canada

J. Letteri, USA

T. Ukai, Japan

D. Jurukovski, Republic of Macedonia

Fig. 9.

N. Lameire, Belgium, M. Polenakovic R. Macedonia, Lj. Chaparoski, R. Macedonia

Gj. Stavric and M. Polenakovic, R. Macedonia

Fig. 10. *Participants at the Conference*

B. Polenakovic, M. Polenakovic, G. Sikole and A. Sikole

Fig. 11. *Participants at the Conference*

Fig. 12. *Presidency of one session at the Conference*

Fig. 13. *M. Polenakovic, Gj. Masin, K. Solez*

Fig. 14. *Participants at the Conference*

Afterwards followed: Sandanori China and Rumi Sakai, Tokyo, Japan: The Japanese Experience During the Kobe Earthquake; Ravindra Mehta, San Diego, USA: New Techniques to Control Uremia and Hyperkalemia in the Disaster Setting; Jean-Pierre Van Waeleghem and Marc De Broe, Antwerpen, Belgium: Follow-Up Assistance after the Acute Disaster has Passed.

In the closing panel discussion on the topic Disaster Relief and Response in the 21st Century participated: Kim Solez, Edmonton, Canada; Allan Collins, Minneapolis, USA; Norbert Lameire, Gent, Belgium; Joseph Letteri, Freeport, USA and Eric Noji, Atlanta, USA.

In the discussion after the lectures it was discussed how to help the injured after the chaos caused by the earthquake. It was discussed how many and what solutions are appropriate and with what electrolyte composition to be given to the injured to prevent the Crush-Related AKI, and when in need for dialysis. It was emphasized that the local medical personnel are important in providing first aid, but that it is necessary, if possible, to transfer the injured to well-equipped medical centers with intensive care and dialysis for further treatment. Non-Governmental Organizations (NGOs) can help in education of the population and in planning during disasters.

After the Conference in R. Macedonia several earthquakes have united the medical personnel and the gained experience have been presented in several papers and guidelines for dealing with earthquake victims [2, 3, 4, 5, 6, 7].

Joint initiative of the medical doctors of the Renal Disaster Relief Task Force of the International Society of Nephrology and European Renal Best Practice produced important "Recommendations for the Management of Crush Victims in Mass Disasters" [7].

Acknowledgement to Goce Aleksoski for the technical assistance.

The paper is part of the project "History of Nephrology in North Macedonia", funded by the Macedonian Academy of Sciences and Arts.

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Резиме**МЕЃУНАРОДНА КОНФЕРЕНЦИЈА „RENAL ASPECTS OF DISASTER RELIEF“, ОХРИД, Р МАКЕДОНИЈА, 24–26 МАЈ 1996 ГОДИНА****Момир Х. Поленаковиќ**

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Меѓународната конференција „Renal Aspects of Disaster Relief“, Охрид, Р Македонија, 24–26 мај 1996 година ги обедини лекарите и инженерите, со цел како подобро да се градат населбите, а во случај на земјотрес – како да им се помогне на повредените.

Беа предложени планови за лекување на повредените со течности и дијализа, а, исто така, и како да се организираат невладините организации и населението за да му помогнат на медицинскиот персонал во оптимизацијата на лекувањето на повредените.

Задолжени беа членовите на „Renal Disaster Relief Task Force“ на Меѓународното здружение за нефрологија и European Best Renal Practise за подготовка на упатства за медицинскиот персонал и за населението за решавање на проблемите со повредените по земјотрес.

Клучни зборови: Renal Aspects of Disaster Relief, земјотрес, траума, crush syndrome, дијализа