







Under the Auspices of









With the recognition of SIAARTI

International symposium and workshop on:

PEDIATRIC TRAUMATIC BRAIN INJURY

JANUARY 30TH-31ST, 2020 BERGAMO / BRESCIA, ITALY

ORGANIZING AND SCIENTIFIC COMMITTEE:

Barbui Tiziano Biroli Francesco

FROM Fondazione per la Ricerca Ospedale di Bergamo

Citerio Giuseppe

Università degli Studi Milano-Bicocca

Bonanomi Ezio Fazzi Francesco Ferrari Floriana Lorini F. Luca Nacoti Mirco Pellicioli Isabella

ASST Ospedale Papa Giovanni XXIII Bergamo, Italy

PROMOTED BY:

FONDAZIONE INTERNAZIONALE MENARINI

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ORGANIZING SECRETARIAT SERVIZI C.E.C. SRL

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WELCOME LETTER

Traumatic brain injury (TBI) is the most important cause of disability for people younger than 45 years of age and a leading cause of acquired disability and death in children. Since 2012, the Lombardy region, one of the most populated in Italy with 10 million people, has recognized the Papa Giovanni XXIII Hospital in Bergamo as a third level treatment center for pediatric trauma. Seven years later, we decided to critically review our activity organizing a meeting with national and international leaders in this field. The congress was built with the mantra of multidisciplinarity and will present four different sessions that should interest all the disciplines involved in pediatric TBI: epidemiology, management, outcome, organization models and perspective. We will present the new guidelines for pediatric TBI (III edition 2019), with the participation of the first author and an outcome session with discussion of two ongoing comparative effectiveness research studies: CreactKids and ADPAT. A final session will be organized to analyse different organization models of four reference centers and explore new idea with the aim to find area of improvement and collaboration.

Beside the congress two workshops will complete the program and will take place the day before the congress. The first, "Neurotrauma course: focus on pediatric TBI", will take place in Brescia and will focus on the use of ultrasonic techniques in the pediatric and neurotraumatological field. The second, "Basics in pediatric brain ultrasound", will take place in Bergamo and will focus on the first medical and surgical treatments in pediatric TBI. Both are enriched with practical and simulation sessions.

We strongly recommend this conference to all specialists involved in TBI management; we are sure you will enjoy your stay in the beautiful town of Bergamo.

Organizing and Scientific Committee

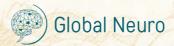
WORKSHOP



NEUROTRAUMA COURSE: FOCUS ON PEDIATRIC TBI

University of Medicine Brescia, January 30th, 2020

With the support of



Course Description

This course covers the current best strategies and considerations for managing neurotrauma patients.

The content is delivered using multiple methods. Comprehensive lectures concentrate on the understanding of core material. Interactive case presentations further deepen this knowledge and enrich the discussion in trauma management. Practical sessions teach the application of principles to the management of common injuries. Case-based discussions link the lecture material and practical skills with the clinical problems encountered in clinical practice.

The course has been developed for residents, intesivists, surgeons, and physicians who manage cranial neurotrauma.

Goal of the course

The course covers the theoretical basis and practical principles that are the foundation for managing cranial neurotrauma.

Course objectives

By completing the course, participants will be better able to:

- Perform an appropriate assessment of neurotrauma patients with application of relevant guidelines
- Choose the appropriate imaging modalities and interpret the results
- Perform ICP monitoring and interpretation to guide treatment interventions
- Manage cranial neurotrauma in adult, pediatric, and polytrauma patients
- Plan and perform the following operative techniques: burr hole, ICP monitor and EVD placement, decompressive craniotomy, dural enlargement, and basic cranioplasty
- Manage common complications, such as bleeding, expanding intracranial hematomas, swelling, infection, and hydrocephalus

Faculty

Course Directors

Fontanella Marco ASST Spedali Civili University Hospital Brescia, Italy Iacoangeli Maurizio Università Politecnica delle Marche Ancona, Italy

Faculty

Bergomi Riccardo ASST Spedali Civili University Hospital Brescia, Italy Bernucci Claudio ASST Ospedale Papa Giovanni XXIII Bergamo, Italy Biroli Antonio ASST Spedali Civili University Hospital Brescia, Italy Cenzato Marco Niguarda Hospital Milan, Italy Figaji Anthony University of Cape Town Cape Town, South Africa Medical University of Vienna Matula Christian Vienna. Austria Servadei Franco **Humanitas University** Rozzano, MI, Italy Kochanek Patrick M. University of Pittsburgh School of Medicine Pittsburgh, PA, USA Giannini Alberto Michele ASST Spedali Civili University Hospital Brescia, Italy Giussani Carlo Giorgio San Gerardo Hospital Monza, MI, Italy Martorana Fabio ASST Ospedale Papa Giovanni XXIII Bergamo, Italy Pinelli Lorenzo ASST Spedali Civili University Hospital Brescia, Italy **Piva Simone** ASST Spedali Civili University Hospital Brescia, Italy

Thursday, January 30th, 2020 - Brescia, Italy

| TIME | AGENDA ITEM | FACULTY |
|----------------------------------|---|--|
| 08.00- 08.15 | Welcome | F. Biroli, L. Lorini |
| 08.15- 08.30 | Introduction and course objectives | M. Fontanella, M. Iacoangeli |
| Module 1 08.30 - 09.30 | Basic of neurotrauma | Chair: C.G. Giussani |
| | The global burden of traumatic brain injury | C. Matula |
| | Pediatric TBI: pathophysiology, epidemiology | A. Figaji |
| | First aid and patient assessment | F. Martorana |
| Module 2 09.30 - 10.30 | Diagnostic and monitoring | Chair: M. Cenzato |
| | Principles of diagnostic in pediatric TBI | L. Pinelli |
| | Monitoring: general | S. Piva |
| | Precision medicine in TBI | A. Figaji |
| 10.30 - 10.45 | PAUSE | |
| Module 3 10.45 - 12.00 | Treatment (intensive, surgical) | Chair: M. Cenzato |
| | Intensive treatment following new guidelines | P. Kochanek |
| | Operative treatment | M. Fontanella |
| | Controversies about decompressive craniectomy | F. Servadei |
| | Cranioplasty complications | C. Bernucci |
| 12.00 - 13.00 | LUNCH | |
| 13.00 - 14.00 | CASE DISCUSSION IN SMALL GROUP PRESENTED BY FACULTY | A. Biroli, C.G. Giussani, M. Iacoangeli |
| Module 4 14.00 - 15.30 | Hot topics | Chair: C.G. Giussani |
| | Hydrocephalus' CSF circulation disturbances | M. Iacoangeli |
| | Cervical spine trauma and pediatric TBI | R. Bergomi |
| | The open pediatric ICU | M.A. Giannini |
| | Outcomes in pediatric TBI | A. Biroli |
| | Biomarkers in pediatric TBI as outcome predictors | P. Kochanek |
| | Educational programs: present and future | C. Matula |

| TIME | AGENDA ITEM | FACULTY |
|---------------|---|--|
| 15.30 - 16.30 | CASE DISCUSSION IN SMALL GROUP PRESENTED BY PARTICIPANTS | A. Biroli, C.G. Giussani, M. Iacoangeli |
| 16.30 - 18.00 | PRACTICAL EXERCISES - Decompressive craniectomy on plastic model - Multimodal monitoring and EVD placement - Optic Nerve Sheath Ultrasound | All faculty |
| 18.00 - 18.30 | EVALUATION AND CLOSING OF THE COURSE | M. Fontanella, M. Iacoangeli |

General Information

Venue

University of Medicine - Viale Europa 11 - Brescia, Italy

Secretariat Opening Hours

From 7:30 a.m. to 6:30 p.m.

Official Language

The official language of the course will be English, no simultaneous translation will be provided

Slide Centre Opening Hours

From 7:30 a.m. to 6:30 p.m.

Lunch and Coffee Break

Lunch and coffee break will be served in the course area, free of charge

Practical exercise organisation

Global Neuro Foundation

Activity organizer: Ximena Rodriguez

Phone: +1 321-732-2199

Email: Ximena.rodriguez@globalneuro.org

A special thanks to Integra and DePuy Synthes for contributing in-kind support (material and logistics)





WORKSHOP



BASICS IN PEDIATRIC BRAIN ULTRASOUND

ASST Ospedale Papa Giovanni XXIII Anesthesia and Intensive Care Department Bergamo, January 30th, 2020

Course Description

This course provides a basic overview of the use of ultrasound in the neonatology and neurotraumatology field. Content is developed using multiple methods. Lectures will be alternated with practical sessions in which it will be possible to become familiar with the techniques and equipment. The practical sessions will be held in the classroom during the morning while in the afternoon the students will be divided into small groups and taken to view examinations performed on children in neonatal and pediatric intensive care.

This course has been developed for residents and physicians who manage pediatric TBI and are interested in the use of ultrasound in clinical practice.

Goal

This course covers the theoretical bases and practical principles underlying the ultrasound examination of the children's head with a focus on neurotrauma.

Course objectives

By completing the essential course, participants will:

- know to perform a basic transcranial Doppler exam
- know the standard projections of a transfontanellar ultrasound examination
- know the scope and current diagnostic limits of ultrasound in the field of pediatric neurotrauma

Faculty

| Bonanomi Ezio | ASST Ospedale Papa Giovanni XXIII | Bergamo, Italy |
|--------------------|-----------------------------------|----------------|
| Corbella Davide | ASST Ospedale Papa Giovanni XXIII | Bergamo, Italy |
| Fazzi Francesco | ASST Ospedale Papa Giovanni XXIII | Bergamo, Italy |
| Gritti Paolo | ASST Ospedale Papa Giovanni XXIII | Bergamo, Italy |
| Martinelli Daniele | ASST Ospedale Papa Giovanni XXIII | Bergamo, Italy |
| Poggiani Carlo | ASST Ospedale Papa Giovanni XXIII | Bergamo, Italy |

Thursday, January 30th - 2020 - Bergamo, Italy

| TIME | AGENDA ITEM | FACULTY |
|---------------|--|-----------------------|
| 08.30 - 08.40 | Introduction to course, presentation of participants and faculty | Chair: E. Bonanomi |
| 08.40 - 09.10 | Brain ultrasonography in neurocritical care | P. Gritti |
| 09.10 - 09.30 | Basics in transcranial brain ultrasound: technique and equipment, anatomy, Doppler | D. Corbella |
| 09.30 - 10.30 | Practice in classroom | |
| 10.30 - 11.00 | COFFEE BREAK | |
| 11.00 - 11.30 | Basics in transcranial brain ultrasound: standard views and normal exam | C. Poggiani |
| 11.30 - 11.45 | Transcranial brain ultrasound: indications in critically newborn | D. Martinelli |
| 11.45 - 12.10 | Ultrasound in pediatric neurotrauma: clinical evidence and opportunities | F. Fazzi |
| 12.10 - 12.30 | Question time | |
| 12.30 - 13.45 | LUNCH | |
| 13.45 - 15.45 | Practice in NICU, PICU e neuroICU | |
| 15.45 - 16.15 | Clinical scenario and question time | |

General Information

Venue

ASST Ospedale Papa Giovanni XXIII Resegone Room - Tower 5 - Floor 2 Anesthesia and Intensive Care Department P.le OMS 1 - Bergamo, Italy

Secretariat Opening Hours

From 7:30 a.m. to 4:00 p.m.

Official Language

The official language of the Meeting will be Italian

Slide Centre Opening Hours

From 7:30 a.m. to 4:00 p.m.

Lunch and Coffee Break

Lunch and coffee break will be served in the course area, free of charge

Registration

The course is free to attend but registration is mandatory, no later than January 22nd, on the website: www.en.fondazione-menarini.it or App Fondazione Menarini.

INTERNATIONAL SYMPOSIUM ON:





PEDIATRIC TRAUMATIC BRAIN INJURY

2019 Update guidelines management and clinical experience

ASST Ospedale Papa Giovanni XXIII Auditorium Lucio Parenzan Bergamo, January 31st, 2020

Friday, January 31st, 2020 - Morning

| 07.30 08.00 | Registration and coffee |
|----------------|---|
| | INTRODUCTION T. Barbui (Bergamo, IT) Scientific Director FROM Foundation |
| 08.00 08.20 | Welcome from the Authority M.B. Stasi (Bergamo, IT) General Manager ASST Ospedale Papa Giovanni XXIII A. Bombassei (Bergamo, IT) President FROM Foundation D. De Luca (Paris, FR) Medical President-Elect ESPNIC P. Donda (Florence, IT) Fondazione Internazionale Menarini |

SESSION I - EPIDEMIOLOGY OF PEDIATRIC TBI

| Chairpersons: | M. Fontanella (Brescia, IT), L. Longhi (Bergamo, IT), E. Calderini (Milan, IT) |
|----------------|--|
| 08.20 08.35 | L. Lorini (Bergamo, IT) Presentation of the day, TBI global view |
| 08.35 08.50 | I. Pellicioli (Bergamo, IT) Bergamo, III level pediatric trauma center: 7 years' experience |
| 08.50 09.00 | A. Gabrieli (Trento, IT) Helicopter emergency transport for pediatric TBI in Italy |
| 09.00 09.15 | O. Chiara (Milan, IT) Epidemiology of pediatric TBI in Lombardia |
| 09.15 09.30 | Discussion |

SESSION II - UPDATE FOR THE MANAGEMENT OF PEDIATRIC TBI

INTERVIEW AND DISCUSSION WITH THE FIRST AUTHOR

| _ | |
|----------------|---|
| 09.30 10.15 | P. Kochanek (Pittsburgh, PA, USA) III edition of the guidelines for severe TBI M. Nacoti (Bergamo, IT), L. Bussolin (Florence, IT), F. Ferrari (Bergamo, IT) |
| Chairpersons: | C. Bernucci (Bergamo, IT), A. Moscatelli (Genoa, IT), S. Gerevini (Bergamo, IT) |
| 10.15 10.35 | A. Figaji (Cape Town, ZA) What is advanced neuromonitoring in pediatric TBI and what is useful? |
| 10.35 10.50 | Coffee break |
| 10.50 11.10 | S. Bressan (Padua, IT) Management of pediatric TBI in the emergency department |
| 11.10 11.30 | O. Manara (Bergamo, IT) Radiology and pediatric TBI: the role of MRI |
| 11.30 11.50 | C. Foresti (Bergamo, IT) The neurophysiologist perspective: cEEG and evoked potentials |
| 11.50 12.05 | Discussion |
| 12.05 12.25 | F. Servadei (Rozzano, MI, IT) Decompressive craniectomy in pediatric TBI: when, how and complications |
| Chairpersons: | C. Bernucci (Bergamo, IT), F. Biroli (Bergamo, IT), F. Servadei (Rozzano, MI, IT) |
| 12.25 13.00 | ROUND TABLE A. Figaji (Cape Town, ZA), G. Piatelli (Genoa, IT), M. Sicignano (Bergamo, IT), M. Iacoangeli (Ancona, IT) Cranioplasty: when, how and complications |
| 13.00 14.00 | Lunch |

Friday, January 31st, 2020 - Afternoon

SESSION III - SHORT AND LONG TERM OUT COME

| 14.00 14.20 | L. Manzotti, E. Bonanomi (Bergamo, IT), C. Zucchinali (Bergamo, IT) Family centered-care: talking with nurse and dad |
|----------------|--|
| Chairpersons: | F. Biroli (Bergamo, IT), P. Stoppa (Bergamo, IT), M. Sessa (Bergamo, IT) |
| 14.20 14.35 | G. Bertolini (Ranica, BG, IT) CreactKids Study: methods and epidemiological results |
| 14.35 14.55 | I. Lazar (Be'er Sheva, IL) CreactKids Study: outcome assessment in pediatric TBI patients |
| 14.55 15.15 | P. Kochanek (Pittsburgh, PA, USA) ADAPT study: methods and preliminary results |
| 15.15 15.35 | S. Strazzer (Bosisio Parini, LC, IT) Long term outcome: epidemiology, assessment, rehabilitation programs and new concept |
| 15.35 15.50 | Discussion |

SESSION IV - ROUND TABLE: ORGANISATION MODELS AND PERSPECTIVES

| Chairpersons: | G. Citerio (Milan, IT) D. De Luca (Paris, FR) |
|----------------|--|
| 15.50 16.35 | I. Lazar (Be'er Sheva, IL), P. Kochanek (Pittsburgh, PA, USA), A. Figaji (Cape Town, ZA) L. Bussolin (Florence, IT) Organisation model for pediatric TBI management. Prehospital, ER, monitoring, family management, rehabilitation time: good and missing in four reference centers |
| 16.35 16.55 | Discussion |
| 16.55 17.40 | EDITORS FACE TO FACE ABOUT PEDIATRIC TBI RESEARCH P. Kochanek (Pittsburgh, PA, USA) Novel concepts, therapies and idea beyond the guidelines G. Citerio (Milan, IT) Missing in pediatric area and lessons from adult TBI research |
| 17.40 17.55 | C. Matula (Vienna, AU) Education in neurotrauma |
| 17.55 18.15 | E. Bonanomi (Bergamo, IT) Conclusion remarks and closure of the meeting |

FACULTY LIST

Barbui Tiziano

FROM Fondazione per la Ricerca Ospedale di Bergamo Bergamo, Italy

Bernucci Claudio

ASST Ospedale Papa Giovanni XXIII

Bergamo, Italy

Bertolini Guido

Istituto di Ricerche Farmacologiche "Mario Negri" Ranica (BG), Italy

Biroli Francesco

FROM Fondazione per la Ricerca Ospedale di Bergamo Bergamo, Italy

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University of Padua Padua, Italy

Bussolin Leonardo

Children's Hospital A. Meyer - University Florence, Italy

Calderini Edoardo

Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico Milan, Italy

Chiara Osvaldo

ASST Grande Ospedale Metropolitano Niguarda Milan, Italy

Citerio Giuseppe

Università degli Studi Milano-Bicocca Milan, Italy

De Luca Daniele

South Paris Unversity Hospital
Paris, France

Ferrari Floriana

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Figaji Anthony

University of Cape Town

Cape Town, South Africa

Fontanella Marco

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Foresti Camillo

ASST Ospedale Papa Giovanni XXIII Bergamo, Italy

Gabrieli Alberto

APSS Trento Hospital
Trento, Italy

Gerevini Simonetta

ASST Ospedale Papa Giovanni XXIII Bergamo, Italy

Kochanek Patrick M.

University of Pittsburgh School of Medicine Pittsburgh, PA, USA

Iacoangeli Maurizio

Università Politecnica delle Marche Ancona, Italy

Lazar Isaac

Soroka University Medical Center Be'er Sheva, Israel

Longhi Luca

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Lorini Luca

ASST Ospedale Papa Giovanni XXIII Bergamo, Italy

Manara Ornella

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Humanitas University Rozzano (MI), Italy

Sessa Maria

ASST Ospedale Papa Giovanni XXIII Bergamo, Italy

Sicignano Mirco

ASST Ospedale Papa Giovanni XXIII Bergamo, Italy

Stoppa Patrizia Maria Carla

ASST Ospedale Papa Giovanni XXIII Bergamo, Italy

Strazzer Sandra

Pediatric Neurorehabilitation Center Bosisio Parini (LC), Italy

Zucchinali Claudia

ASST Ospedale Papa Giovanni XXIII Bergamo, Italy

GENERAL INFORMATION

VENUE

ASST Ospedale Papa Giovanni XXIII

Auditorium Lucio Parenzan P.le OMS 1 - Bergamo, Italy

SECRETARIAT DURING THE MEETING

The Secretariat will be open from 07:30 a.m. to 6:00 p.m.

OFFICIAL LANGUAGE

The official language of the Meeting will be Italian. Simultaneous translation will be provided

REGISTRATION

The Meeting is free to attend but registration is mandatory, no later than January 22nd, on the website: www.en.fondazione-menarini.it or App Fondazione Menarini.

TECHNICAL FACILITIES

Facilities will be available for computer presentations and overhead projections. A Slide Centre with PCs (Windows and Macintosh operating systems) will be available for Speakers to preview and finalize their presentations. Speakers are kindly requested to submit their presentations to the Slide Centre technicians at least one hour before their talks.

SLIDE CENTRE OPENING HOURS

Friday, January 31st, from 07:30 a.m. to 6:00 p.m.

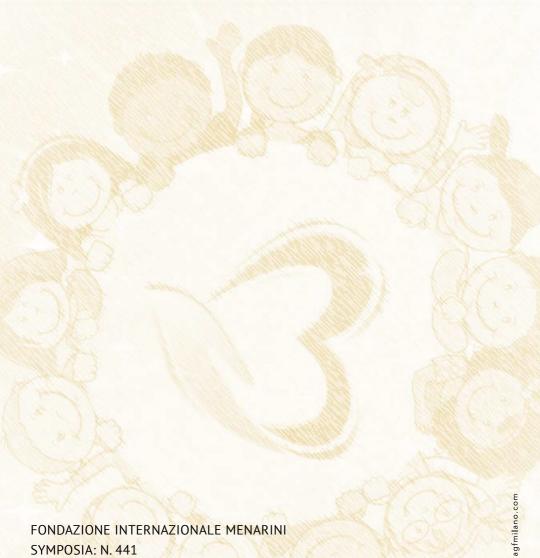
LUNCH AND COFFEE BREAK

Lunche and coffee break will be served in the Meeting area, free of charge

Fondazione Internazionale Menarini Symposium n: 441

NOTES





FONDAZIONE INTERNAZIONALE MENARINI SYMPOSIA: N. 441