

Mr Antonio Belli MD, FRCS, FRCS (SN)

Reader in Neurotrauma

Neurobiology

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About

Mr Belli graduated from Tor Vergata University in Rome with a degree in Medicine and Surgery. He completed a doctoral degree (MD) on neurobiochemistry of brain ischaemia and reperfusion at Tor Vergata University and then moved to the UK in 1994.

He trained as a neurosurgeon at King's College Hospital, Atkinson Morley's Hospital, The National Hospital for Neurology and Neurosurgery, Great Ormond Street Hospital, The Royal Free Hospital and Charing Cross Hospital. Between 2001 and 2003 he carried out a research fellowship in neuromonitoring at the Institute of Neurology in London.

He is on the editorial board several neurology journals and is an advisor to NICE and the Care Quality Commission.

Antonio Belli is a leading member of the SRMRC. Find out more about the work of the research centre on the [SRMRC website \(http://www.srmrc.nihr.ac.uk\)](http://www.srmrc.nihr.ac.uk).

Qualifications

- FRCS (SN)
- FRCS
- MD

Biography

Mr Belli a Reader in Neurotrauma at the Surgical Reconstruction and Microbiology Research Centre (SRMCR) based at the Queen Elizabeth Hospital Birmingham (<http://www.srmrc.nihr.ac.uk>/ (<http://www.srmrc.nihr.ac.uk>)). The SRMRC is a leading centre for trauma research and was founded in 2011 with £20M grant from NIHR, MoD, the University of Birmingham and University Hospitals Birmingham. He heads the neurotrauma research theme, which carries out translational research on traumatic brain injury and spinal cord injury. He is also a practising neurosurgeon at the Queen Elizabeth Hospital where he leads the Neurotrauma service comprised of a formidable team of doctors, nurses and therapists.

Teaching

Neurotrauma

Research

Mr Belli's research interest is in neurobiochemistry and neuromonitoring of acute brain injury. A particular focus is brain metabolism following mild and severe traumatic brain injury and how this relates to the long-term outcome and the risk of early neurodegenerative conditions. Many of his current studies involve cross-disciplinary collaborations with engineering, chemistry, computing science and IT.

Working with cerebral microdialysis, another area of interest is early markers of tissue damage for the prevention of secondary injury after trauma and subarachnoid haemorrhage, patient stratification and drug discovery.

He is the principal or chief investigator of several acute brain injury studies, including international multicentre trials.

Other activities

- Head of the Neurotrauma theme of NIHR Surgical Reconstruction and Microbiology Research Centre
- Trustee for Headway West Midlands
- Module Editor for Neurosurgery for eLearning for Health Care (Royal College of Surgeons of England and Department of Health)
- Member of the Trauma Group of the British Society of Neurological Surgeons
- Clinical Advisor to Care Quality Commission Faculty member of the Neurotrauma course at the Royal College of Surgeons of England

Publications

SELECTED BOOK CHAPTERS

- Bulstrode H, Belli A: Emergency Neurosurgery. In Bailey & Love's Short Practice of Surgery, 26th edition. Edited by Norman Williams, Christopher Bulstrode and P. Ronan O'Connell. Hodder Arnold – in press
- Barker S, MacDonald JHM, Belli A: Head and Neck Trauma. In ABC of Imaging in Trauma, edited by L King and D Wherry, chapter 2, pages 4-12, Wiley-Blackwell, BMJ Book, 2010.
- Wainwright P, Sen J, Belli A. S100B As A Potential Neurochemical Biomarker In A Variety Of Neurological, Neuropsychiatric and Neurosurgical Disorders. In The Handbook of Neuropsychiatric Biomarkers, Endophenotypes, and Genes: Neuropsychological Endophenotypes and Biomarkers, volume III, edited by M Ritsner, chapter 29, pages 13-25, Springer Verlag, 2009.
- Sen J, Afinowi R, Kitchen N, Belli A. Intracranial hemorrhage: aneurysmal, idiopathic and hypertensive. In Neurology and Clinical Neuroscience, edited by H.V. Shapira, chapter 43, pages 587-594, Mosby Elsevier 2007.
- Smith M, Belli A, Sen J, Russo S, Petzold A, Kitchen N. Prediction of secondary brain injury during neurocritical care: The role of cerebral microdialysis. In: Microdialysis monitoring tissue chemistry in intensive care medicine. In: Microdialysis – Monitoring tissue chemistry in intensive care medicine. Eds.Klaus S & Bahlmann L. Pabst Science Publishers 2004; 45-55.
- Kitchen N, Belli A, Sen J. Resective surgery of vascular and infective lesions. In The Treatment of Epilepsy - 2nd Edition, edited by Shorvon, Perucca, Fish and Dodson, chapter 62, pages 742-762, Blackwell Publishing 2004.

SELECTED ARTICLES

- Vagnozzi R, Signoretti S, Floris R, Marziali S, Manara M, Amorini AM, Belli A, Di Pietro V, Lazzarino G, Tavazzi B. Decrease In N-Acetylaspartate Following Concussion May Be Coupled To Decrease In Creatine. J Head Trauma Rehab 2012, in press
- Kolias AG, Belli A, Li LM, Timofeev I, Corteen EA, Santarius T, Menon DK, Pickard JD, Kirkpatrick PJ, Hutchinson PJ. Primary decompressive craniectomy for acute subdural haematomas: results of an international survey. Acta Neurochir (Wien). 2012 Apr 20. [Epub ahead of print]
- Zaben M, El Ghoul W, Belli A. Post-traumatic Head Injury Pituitary Dysfunction: Does it Matter for Rehabilitation? Disability & Rehabilitation. 2012, July 2010. [Epub ahead of print]
- Hou R, Moss-Morris R, Peveler R, Mogg K, Bradley BP, Belli A. When a minor head injury results in enduring symptoms: a prospective investigation of risk factors for postconcussional syndrome after mild traumatic brain injury. J Neurol Neurosurg Psychiatry. 2012 Feb;83(2):217-23
- Lazzarino G, Amorini A, Eikelenboom M, Killestein J, Belli A, Di Pietro V, Tavazzi B, Barkhof F, Polman C, Uitdehaag B, Petzold A. Cerebrospinal fluid ATP metabolites in multiple sclerosis. Mult Scler. 2010 May; 16(5):549-54. Epub 2010 Mar 1.
- Di Pietro V, Amin D, Pernagallo S, Lazzarino G, Tavazzi B, Vagnozzi R, Pringle A, Belli A: Transcriptomics of traumatic brain injury: gene expression and molecular pathways of different grades of insult in a rat organotypic hippocampal culture model. J Neurotrauma 2010 Feb; 27(2):349-59
- Signoretti S, Di Pietro V, Vagnozzi R, Lazzarino G, Amorini AM, Belli A, D'Urso S, Tavazzi B: Transient alterations of creatine, creatine phosphate, N-acetylaspartate and high-energy phosphates after mild traumatic brain injury in the rat. Mol Cell Biochem 2010 Jan; 333(1-2): 269-77
- Amorini AM, Petzold A, Tavazzi B, Eikelenboom J, Keir G, Belli A, Giovannoni G, Di Pietro V, Polman C, D'Urso S, Vagnozzi R, Uitdehaag B, Lazzarino G: Increase of uric acid and purine compounds in biological fluids of multiple sclerosis patients. Clin Biochem. 2009 Jul;42(10-11):1001-6. Epub 2009 Mar 31.
- Bulters D, Belli A: Life-threatening head trauma: why are failing our targets for early treatment? Anaesthesia 2009 Mar; 64(3):277-81.
- Kolias AG, Sen J, Belli A. Pathogenesis of cerebral vasospasm following aneurysmal subarachnoid hemorrhage: Putative mechanisms and novel approaches. J Neurosci Res, 2009 Jan;87(1):1-11
- Belli A, Sen J, Petzold A, Russo S, Kitchen N, Smith M. Metabolic failure precedes intracranial pressure rises in traumatic brain injury: a microdialysis study. Acta Neurochir, Acta Neurochir (Wien), 2008 May;150(5):461-9; Epub 2008 Apr 18.

