Rehabilitation of traumatic brain injury.  
Current guidelines and beyond

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After accepting the Editor's invitation to publish the final report of the Consensus Conference Modena 2000 (CC) on the rehabilitation of patients with traumatic brain injury (TBI) 1 we wondered whether it was a good idea to report the conclusions of a 5 year-old meeting. To our relief, not without a little disappointment, we found that the document is still relevant today. Why this long "survival" of the recommendations? We believe it for at least 2 reasons. One is that, in health care changes come through slowly. But more importantly, we believe this is true as the issues we tried to address there were quite complex. The multisciplinary structure of the Conference made it possible to have an open discussion among physicians, policy makers, health economists and patients representatives, thus stressing that health care should involve the social, psychological and cultural dimensions of medicine.2, 3

CCs have a relatively long history in medicine. They were originally conceived as a way to stimulate discussion on controversial aspects of health care interventions. However, they have been criticised for being too superficial and not allowing an in-depth critical appraisal of the problems at stake.4, 5 In the Modena's CC we tried to overcome these limitations by structuring it into 3 subgroups on health, psychosocial and organisational aspects, respectively. These subgroups were asked to review the existing literature and to prepare working documents to be presented to the CCs Jury to inform of their deliberations.

Therefore, the Jury went beyond simple and generic recommendations and was able to prepare a detailed series of statements dealing with the psychosocial aspect of care and the preferred configuration of services, besides the specific clinical issues. But let's review the main outcome of the Conference with particular emphasis on the specification of what is in the document that still held true and what instead needs to be reconsidered in the light of new evidence.

As far as the clinical issues are concerned, the key recommendations deal with the timeliness of the rehabilitative interventions to be started when the patients are still in the acute ward, and with the need of informing the relatives through a collaborative attitude of the multidisciplinary team.

Subsequent studies and a systematic review 6 have confirmed that a multidisciplinary and integrated approach improves the TBIs patients outcomes. As to mild brain injuries, strong evidence suggests that most patients make a good recovery with provision of appropriate information, without additional specific interventions. For moderate to severe injuries, there is strong evidence of benefit from formal interventions.
For patients with moderate to severe acquired brain injuries already undergoing rehabilitation treatment, there is strong evidence that more intensive programmes are associated with earlier functional gains.

For patients in the acute phase, the CCs document recommends that interventions aimed at preventing secondary sequelae are offered, but it strongly opposes the use of sensory stimulations (SS). This is now confirmed by a Cochrane review 7 first published in 2002 (and currently being updated) which indicates that SS do not affect the duration of coma or functional outcomes globally.

Setting criteria for the transfer from intensive care units or neurosurgical wards to rehabilitative units was meant to reduce variations among those caring patients in the acute and rehabilitative phases. This should ease the transfer from one phase to the other and facilitate access to intensive rehabilitation. These criteria have been divided into 2 groups: a) medical stabilization and b) neurosurgical stabilization. These criteria were established to avoid that the presence of supports needed to maintain baseline functions (i.e. tracheotomy tube, central venous catheter, nasogastric tube etc.) could be seen as contraindication to the transfer to a rehabilitative facility.

It is noteworthy that the Jury’s document identified specific rehabilitative routes for different clinical requirements as tools to reduce variations in the care path after the acute phase. As it can be seen in Figure 1 (see Taricco et al.8) specific indicators, such as the Glasgow outcome scale, the level of cognitive functioning and the disability scale, are suggested. Once again the Jury agreed that patients with severe disease (those in vegetative state or minimally conscious) should be given the chance to be transferred to intensive rehabilitative facilities, if these are equipped to provide specific rehabilitative programs targeted at subjects who can not actively participate.

More severe patients are those still at greater risk of inappropriate care: this has been confirmed by the GISCAR study 9 which showed that the trauma-to-rehabilitation admission lag time is still too long and that many patients still suffer from serious complications and experience inadequate care paths.

As shown by recent commentaries published in the BMJ10,11 these problems are relevant not only in Italy and the issues of the most appropriate arrangement for TBIs services remain unsolved.

Providing complete and thorough information is central to good quality care for TBI patients. In line with this, the Jury stressed it in the final document making reference to what is internationally referred as “stewardship of the health service”, i.e. its ability to guide patients through the different phases of care.

Some hints of a possible impact of these recommendations emerged from preliminary results of a GISCAR follow-up study: patients’ relatives reported they received complete information and that they felt to have been involved in the rehabilitation phase. Much, however, still remains to be done as the Verona’s CC12 showed. During that Conference, in fact, families and relatives reported that they felt left alone alone when the patient returned home after the completion of hospital rehabilitation.

The Modena CC was also instrumental to the development of strong relationships between SIMFER and the National Coordinating Committee of TBI associations. Several joint initiatives stemmed from the Conference including a survey on all rehabilitation centers active in Italy whose results are now available on TBI association website.13

A final comment is worth with reference to optimal configuration of services. The Jury had to face the lack of empirical data on the comparative effectiveness of different organizational model. Nonetheless they decided to indicate the model defined as an “integrated network with different and well defined responsibilities” (by some called “Hub and Spoke”) 14 as the most adequate to assure continuity in the care process.

Some Italian regions have, after the Modena’s Conference, moved toward an integrated network model. In the Emilia Romagna region, for example, the Gravi Cerebrolesioni Emilia Romagna (GRA.C.ER) network was set up 15 based on a clear division of labour among services with different levels of expertise and with services dedicated to brain injury patients; in this framework a regional registry was also implemented to improve the epidemiological information.

The Conference also proposed the key elements of a research agenda aimed at improving the scientific basis for the management of TBI patients. While the GISCAR study has undoubtedly advanced our knowledge as to the epidemiology of TBI, very little has been done to improve the knowledge of the effectiveness of specific interventions. We should also reflect on the limited impact of our efforts in terms of policy making. This probably calls for a greater effort to link scientific initiatives, such as the CC that we present here, and policy makers and to reflect whether
the way we addressed organisational issues is what policy makers need to know to make decisions.

References

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