Commentary

Although the incidence of chronic subdural hematoma (CSDH) is assessed about 1–5.3 case per 100,000 individuals yearly, this is a real emerging disease in consideration to the increasing average age of the general population.[1] For such reasons, this disease may have a deep effect on the socio-sanitary systems of many countries, leading to a progressive increase of healthcare costs and patient hospitalization.[1] Moreover, CSDH has a relevant impact, also, for patients: indeed, in fragile elderly ones, often with multiple comorbidities, the reduction of autonomous activities in daily life may lead to a relevant decrease of their quality of life, and according to some studies, also, to a reduction in the expected survival time.[2] Furthermore, it has been suggested to consider CSDH as a form of reversible dementia, with a progressive decline in mental and physical performance, sometimes associated to clear focal neurological deficits, which can be reversed after treatment, at least to some degrees.[1]

Based on these considerations, it is not surprising that this condition is central in the scientifical debate, as demonstrated by a large number of publications in the field. In 2017, 191 papers were reported in the medical literature on this topic, and in the first 9 months of 2018, about 135 have been already accepted for publication. Most of them are focused on the more appropriate surgical treatment for this condition. Indeed, despite its high incidence, no consensus has been reached on the most effective surgical technique, even after randomized controlled trials and wide meta-analyses.[3,4] Considering that the selection of the most appropriate surgical management is a prominent key of success, the relevance of this discussion is evident.[4] In their paper, Martin *et al*. report their technique, consisting in the insertion of two drainages through a burr hole, to achieve a better irrigation of the hematoma and a reduction of the risk of postoperative pneumocephalus.[5] The paper is interesting because, as stated by the authors, they combine some known technical principles of CSDH surgery, such as postoperative drainage, saline solution irrigation, with some innovative nuances to reduce the presence of postoperative intracranial air, which is known to be associated to a higher risk of recurrence of the hematoma.[5]

Although we strongly believe that the efforts by the authors are commendable, we, also, consider that it is time to change the paradigm in the scientific literature on this field.[6] Indeed, for some aspects, the final prognosis

of patients with CSDH is only partially dependent on the technical issue, it is, also, due to the patient's clinical condition, comorbidities, and medical therapies.[7,8] To some extent, we face the paradoxical scenario that one of the less technical demanding neurosurgical maneuver, usually quick, with low complication, and even not always requiring general anesthesia, could lead to scarcely acceptable results. Indeed, if we accept that CSDH manifests as a reversible form of dementia, the aim of any treatment should be the restoring of the patients' previous quality of life, independence in daily activities, and general performance. However, a common observation in routine practice is that the functional sequelae are often severe, also in cases with an excellent surgical outcome of the hematoma. In fact, in a not negligible rate of cases, the final clinical status is far from the desirable, with a substantial regression of quality of life.[6-8] We agree with many studies that the comorbidities of patients, their initial clinical conditions, and the radiological features of the hematoma are relevant prognostic factors, which should be considered to predict the final patient's outcome.[6-8] Revising our surgical experience on 216 CSDH cases operated between 2013 and 2015, we found that patients older than 81 (hazard ratio [HR]: 6.16 e $P < 0.0001$), with cardiological comorbidities (HR: 1.88 e $P = 0.04$.), or chronic pneumatics (HR: 2.43, $P = 0.003$), or preoperative dementia (HR: 2.04, $P = 0.03$) or worse neurological condition at surgery, evaluated basing on the Glasgow Coma Scale (HR: 2.04, $P = 0.03$), presented a shorter survival time at a multivariate statistical analysis despite the resolution of CSDH on postoperative scans.

Considering the prominent costs of CSDH not only for the health systems but also for patients, caregivers, their families, and for the society, we consider that the main issue in this pathology is the discrepancy between the easy and quick technical aspects of this surgery and the poor prognosis of some of these cases. Therefore, we hope that future studies will enlighten the role of each of prognostic factor, to help clinicians in the more difficult issue in CSDH: the selection of the better surgical indications as possible.

Matteo Zoli[1,2], Alessandra Serracchioli[2], Diego Mazzatenta[1,2]

[1]Department of Biomedical and Neuromotor Sciences, University of Bologna, [2]Department of Neurosurgery, IRCCS Istituto delle Scienze Neurologiche di Bologna, Bologna, Italy

Address for correspondence: Dr. Matteo Zoli, Department of Biomedical and Neuromotor Sciences, University of Bologna, and Department of Neurosurgery, IRCCS Istituto delle Scienze Neurologiche di Bologna, Bologna, Italy.
E-mail: matteo.zoli4@unibo.it

References

1. Sahyouni R, Goshtasbi K, Mahmoodi A, Tran DK, Chen JW. Chronic subdural hematoma: A Historical and clinical perspective. World Neurosurg 2017;108:948-53.
2. Miranda LB, Braxton E, Hobbs J, Quigley MR. Chronic subdural hematoma in the elderly: Not a benign disease. J Neurosurg 2011;114:72-6.
3. Liu W, Bakker NA, Groen RJ. Chronic subdural hematoma: A systematic review and meta-analysis of surgical procedures. J Neurosurg 2014;121:665-73.
4. Kolias AG, Sinha R, Park H, Santarius T, Hutchinson PJ. Surgical management of chronic subdural hematomas: In need of better evidence. Acta Neurochir (Wien) 2013;155:183-4.
5. Májovský M, Netuka K, Beneš V, Kučera P. Burr-hole evacuation of chronic subdural hematoma: Biophysically and evidence based technique improvement. J Neurosci Rural Pract 2018;10:113-8.
6. Iorio-Morin C, Touchette C, Lévesque M, Effendi K, Fortin D, Mathieu D. Chronic subdural hematoma: Toward a new management paradigm for an increasingly complex population. J Neurotrauma 2018;35:1882-5.
7. Katiyar V, Vora Z, Agarwal S, Sharma R, Gurjar H. Prognostic scoring for chronic subdural hematoma: Is decision making easier? World Neurosurg 2018;116:481.
8. Palandri F, Zoli M, Polverelli N, Noris P, Sollazzo D, Catani L, *et al*. MYH9-related thrombocytopenia and intracranial bleedings: A complex clinical/surgical management and review of the literature. Br J Haematol 2015;170:729-31.

Access this article online

Quick Response Code:

Website: www.ruralneuropractice.com

DOI: 10.4103/jnrp.jnrp_316_18

How to cite this article: Zoli M, Serracchioli A, Mazzatenta D. Commentary. J Neurosci Rural Pract 2019;10:118-9.