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Invited Commentary

Reply letter to the commentary on "Is strict adherence to the nonoperative management protocol associated with better outcome in patients with blunt splenic injuries?: A retrospective comparative cross-sectional study" Int J Surg 2019;69:116-123

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The implementation and success of nonoperative management (NOM) of blunt splenic injuries (BSI) continue to increase in trauma centers around the world. However, the limitations of using angioembolization in the non-operative management should be made known to all trauma surgeons [1–4].

On the issue "about the time needed for returning to normal life", a Delphi study in 2013 recommended a 3-month period of activity limitation [5]. Zarzaur et al. [6] suggested that the time to avoide contact sports should depend on the injury grade (low grade, 4–8 weeks; higher grade, longer period or until computed tomographic [CT] evidence of complete healing, or even permanent avoidance). The Western Trauma Association recommends contact sports restriction for patients who are managed nonoperatively for at least 4 weeks for patients with grade I injuries, 8 weeks for grades II and III injuries, and 12 weeks for grade IV and V injuries [3]. A review article published in 2016 from Brazil [2] recommended contact sports restriction for patients who are managed nonoperatively for 6 months for grade I, II, and III injuries, and 12 months for grade IV and V injuries. The guideline of the World Society of Emergency Surgery proposes activity restriction for 4–6 weeks for minor injuries and up to 2–4 months for moderate and severe injuries [4]. The Eastern Association for the Surgery of Trauma in 2012 highlighted the lack of consensus in this topic and proposed a requirement for future studies [7]. Currently, there is no consensus which has been reached on this issue.

The controversies in recommending avoidance of contact sports relates to the true incidence rate of rebleeding or delayed splenic rupture (DSR) after hospital discharge, and the data on these incidences remain poorly documented. Studies on DSR reported incidence rates between 0.27% and 1.4% within a 6-month period [1]. Thus, DSR is rare but it may occur regardless of injury grade. In our opinion, the possibility of DSR after NOM would depend on several factors, including whether the patients have undergone angioembolization or not, the region of embolization (proximal or selective distal), and the embolization material used (gelfoam or coil). In our experience, no DSR occurred after hospital discharge in patients who underwent successful angioembolization. In our institution, we recommend patients to avoid vigorous sports within 3 months after NOM for patients with grade IV and V injuries. For patients with grade I, II, and III injuries, we do not restrict early mobilization or participation in contact sports for the patients. However, instructions on symptoms of DSR are given to these patients regardless of the injury grade. Our reasonings on unrestricted contact sports for patients with grade I, II, and III injuries are: (1) the incidence of DSR after NOM is rare; (2) good results have been obtained from advancement in intensive trauma care and new technology, including but not limited to the availability of the hybrid operating room; (3) the widespread use of CT and liberal use of angioembolization in case of DSR; and (4) the general awareness of the complications of DSR using the protocol of NOM to manage BSI. Furthermore, London et al. in their retrospective review of 182 patients with BSI [8] reported that the timing of patient mobilization was not associated with either DSR or a higher rate of NOM failure. The lack of information "on the time to return to normal activities" in our study may be a limitation in the outcome assessment. However, this should not lead to a major drawback in the interpertation of the results.

Data statement

Data sharing not applicable to this article as no datasets were generated or analyzed during the current study.

Ethical approval

Not applicable.

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References

[1] B.L. Zarzaur, G.S. Rozycki, An update on nonoperative management of the spleen in adults, Trauma Surg. Acute Care Open 2 (1) (2017) e000075.
[2] J.R. Carlotto, J. Lopes-Filho Gde, R. Colleoni-Neto, Main controversies IN the non-operative management OF blunt splenic injuries, Arq. Bras. Cir. Dig. : ABCD = Braz. Arch. Dig. Surg. 29 (1) (2016) 60–64.
[3] S.E. Rowell, W.L. Biffl, K. Brasel, E.E. Moore, R.A. Albrecht, M. DeMoya, N. Namias, M.A. Schreiber, M.J. Cohen, D.V. Shatz, et al., Western trauma association critical decisions in trauma: management of adult blunt splenic trauma-2016 updates, J. Trauma Acute Care Surg. 82 (4) (2017) 787–793.
[4] F. Coccolini, G. Montori, F. Catena, Y. Kluger, W. Biffl, E.E. Moore, V. Reva, C. Bing, M. Bala, P. Fugazzola, et al., Splenic trauma: WSES classification and guidelines for adult and pediatric patients, World J. Emerg. Surg. : WJES 12 (2017) 40.
[5] D.C. Olthof, C.H. van der Vlies, P. Joosse, O.M. van Delden, G.J. Jurkovich, J.C. Goslings, Consensus strategies for the nonoperative management of patients with blunt splenic injury: a Delphi study, J. Trauma Acute Care Surg. 74 (6) (2013) 1567–1574.
[6] B.L. Zarzaur, R.A. Kozar, T.C. Fabian, R. Coimbra, A survey of American Association for the Surgery of Trauma member practices in the management of blunt splenic injury, J. Trauma 70 (5) (2011) 1026–1031.
[7] N.A. Stassen, I. Bhullar, J.D. Cheng, M.L. Crandall, R.S. Friese, O.D. Guillamondegui, R.S. Jawa, A.A. Maung, T.J. Rohs Jr., A. Sangosanya, et al., Selective nonoperative management of blunt splenic injury: an Eastern Association for the Surgery of Trauma practice management guideline, J. Trauma Acute Care Surg. 73 (5 Suppl 4) (2012) S294–S300.
[8] J.A. London, L. Parry, J. Galante, F. Battistella, Safety of early mobilization of patients with blunt solid organ injuries, 1960, Arch. Surg. 143 (10) (2008) 972–976 discussion 977.

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