In this issue of the Journal, Most et al. [1] attempt to give further insight into the dilemma of indications to surgical repair of acute type A aortic dissection (AADA) in patients presenting with preoperative neurological dysfunction. The topic has been the focus of numerous institutional and registry reports in the past [2–4]. Although a formal consensus has not yet been reached, there is worldwide agreement that newly presenting neurological injury greatly increases hospital risk, in terms of mortality and morbidity, but does not represent per se a contraindication to repair [2]. In addition, no apparent impact on late mortality has thus far been reported, even though functional recovery may be incomplete in some patients, leading to significant permanent disability [2, 3]. Several prior reports have suggested that extent of functional recovery may be satisfactory in patients presenting with acute focal motor or sensory disorders (stroke) [2], whereas this may not hold true for patients presenting with coma, a condition affecting from 3 to 14% of AADA patients [3, 4]. Perhaps the most original contribution of this study is the effort to retrospectively risk-stratify patients based on the degree of functional recovery at the mid-term clinical follow-up [1]. Similar to previous studies, unfortunately, Most et al. [1] fall short of addressing the controversial issue of granting surgical repair to comatose patients with AADA. The patho-physiology of coma in acutely dissected patients is often multifactorial, since anatomical factors such as head-neck vessels involvement, frequently coexist with circulatory collapse (due to tamponade, low output and acute aortic valve regurgitation), sequelae of acute hypoxia (due to stroke or cardiorespiratory failure) and of sedation, to aide transport and minimize further brain damage. In addition, coma manifests more often in elderly patients, with greater comorbidities and splanchnic or limb malperfusion, all phenomenal risk factors for hospital mortality and morbidity [3]. Last but not least, comatose patients rely on family, when present, to express consent to life-saving therapies, thereby increasing the burden of decision on relatives and physicians.

Not surprisingly, the subgroup of AADA patients presenting with coma is the one most frequently denied surgical management, with as many as one-third of comatose patients assigned to medical therapy [3, 4]. However, the ultimate decision is always left to the surgeon on call and no institution has thus far reported prospective application of a risk score or management algorithm to deal with this taxing problem.

Data from institutional series have suggested that immediate referral to surgery of AADA patients presenting with coma, avoiding delays longer than 5 h, may attain low hospital mortality (<15%) and high rate of functional recovery, with over two-third of patients recovering consciousness and half being independent at the short-term follow-up [5]. Criteria used to select patients for surgery, however, are often elusive. Furthermore, delays of more than 5 h, are common in daily practice of large cardiac units offering emergency aortic surgery on a regional basis. A picture, perhaps, closer to real-world experience comes from international registries [3]. Therein, no more than two-third of comatose patients with AADA are typically offered surgical repair, less than 40% survive the operation and slightly more than half (57%) survive at 5 years, making mid-term survival likely in no more than 20% of patients [3]. Moreover, functional recovery may be observed in three-fourth of late survivors. Unfortunately, the late results apply to only half of hospital survivors, as the follow-up information on the other half is unavailable [3]. In summary, late survival with (some) functional recovery may honestly be predicted to no more than 7–8% of all comers with coma at onset of AADA, based on registry data [3]. Given this grim outlook, the mere argument that these very same patients do not survive with medical therapy alone [3] is insufficient to recommend surgical repair. Indeed, prior work analysing registry data suggests that, when predicted outcome of surgical management of AADA is very poor (hospital mortality >58%), operation should not be considered mandatory, as healthcare and social burdens may be unjustified [5]. Not surprisingly, among the most powerful multipliers of hospital mortality in the proposed risk equations is preoperative coma [5]. The experience reported by Most et al. [1] is therefore in line with previous studies, as the outcome in the 14 patients presenting with coma was poor and no pre- or intraoperative factors, including Glasgow Coma Scale and surgical delay, proved predictive of recovery. Therefore, until solid (at least 95% complete) late follow-up data are gathered showing significant functional recovery in the majority of comatose patients surviving AADA repair, extreme caution is advised to recommend surgical management, in particular when comorbidities, such as advanced age, malperfusion or cardiac tamponade, exist.

Keywords: Acute type A aortic dissection • Surgical repair • Neurological injury • Coma • Ascending aorta • Aortic arch
REFERENCES


