Statistical methods for survival analysis in oesophageal cancer

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I read with interest the paper by Liu et al. [1] describing the factors affecting 5-year survival following surgical resection of oesophageal squamous cell carcinoma. This remains a disease with a dismal prognosis even with a complete 'curative' resection and the identification of the factors that affect survival is clearly important as some of these could potentially be addressed to improve outcomes.

However, the analytical approach using logistic regression to identify the factors predicting survival is flawed. Non-parametric methods of event history analysis (Kaplan–Meier) or semi-parametric methods such as Cox regression (that permit the incorporation of multiple covariates) are preferable to logistic regression methods as used in the paper due to their ability to focus on the ‘time to the event of interest’ and the effects of factors on survival in specified groups of patients by censoring individuals who do not experience the event during the study period [2]. These methods, therefore, maintain focus on ‘time to the event’ rather than pegging the event at a fixed time and facilitate the identification of covariates that independently affect survival. A second advantage is the ability to examine the effects of covariates that vary with time. Factors like age and quantified weight loss clearly change over the 5 years of the study period and their effects are better examined by conventional survival analysis techniques.

REFERENCES

LETTER TO THE EDITOR RESPONSE

Reply to Rao

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Keywords: Oesophageal squamous cell carcinoma • Statistical analysis • Dichotomous variable

Recently we published an article entitled ‘Which factors are associated with actual 5-year survival of oesophageal squamous cell carcinoma?’ [1]. It pleased us that Rao was concerned by our paper. He believed that it was inappropriate to adopt logistic regression for statistical analysis, and that one should adopt Cox regression [2].

Actually, this study was not a complete analysis of survival. Its purpose was to identify factors associated with actual five-year
Impact of aspirin resistance on antiplatelet therapy management after coronary artery surgery

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Keywords: Aspirin resistance • Coronary surgery • Platelet function

We read with great interest the recently published study by Wang et al. [1]. In a group of patients with off-pump coronary artery surgery (CAS), aspirin resistance (AR) was observed in 29.7% of patients on the first postoperative day [1]. To patients who developed AR, 75 mg of clopidogrel/day was prescribed in addition to 100 mg of aspirin/day [1]. By postoperative days 4 and 10, postoperative AR incidence decreased to 16.2 and 4.5%, respectively [1]. Dual antiplatelet therapy (APT) provides incremental platelet inhibition compared with either agent alone and more effective suppression of adverse ischaemic events [2]. This finding is confirmed by Awidi and coworkers who found that the combination of aspirin and clopidogrel had greater inhibitory effects on platelet aggregation than either agent alone in patients with coronary artery disease [3]. In our opinion, the addition of clopidogrel in the group of patients with AR inevitably affected both the observed clinical outcomes and the decrease in AR proportion. Following CAS, extensive evidence supports the use of aspirin, in doses of 100–325 mg/day, to be administered postoperatively and continued indefinitely [4]. A daily 100 mg dose of aspirin administered postoperatively in a study by Wang et al. [1], allows the possibility of different APT management strategies. For example, a stepwise increase in the aspirin dose with a subsequent platelet function assessment could probably bring a further decrease in the AR proportion and therefore, eliminate the need for dual APT. However, it still remains unclear, whether an aspirin dose increase would be superior to dual APT, in the context of a clinical outcome. Of note, a meta-analysis by Snoep et al. showed an overall prevalence of 21% of laboratory-defined clopidogrel low response [5]. We believe that these two different APT approaches should be evaluated in a large cohort randomized trial with an outcome evaluation of both ischaemic and bleeding events. The authors hypothesized that the Chinese population is more sensitive to aspirin therapy and presented no AR at a 6-month follow-up. It would be interesting if the authors analyzed the bleeding event occurrence at the 6-month follow-up in the group of patients on dual APT. APT management in cases of AR should be individually tailored, with aspirin dosage stepwise increased (up to 325 mg/day), and clopidogrel administration in cases of AR to high aspirin doses. Temporary AR requires temporary APT adjustment. The duration and intensity of the APT adjustment should be tailored according to drug specific platelet function tests in order to minimize both ischaemic and bleeding events. In conclusion, it is difficult to investigate by what amount the laboratory AR corresponds to the clinical AR. Prospective studies, with a large study sample necessitated by the infrequency of adverse ischaemic events, must determine the optimal threshold for AR, taking into consideration both the laboratory and clinical outcome findings.

REFERENCES