We welcome letters to the Editor concerning articles which have recently been published. Such letters will be subject to the usual stages of selection and editing; where appropriate the authors of the original article will be offered the opportunity to reply.

© 2010 British Editorial Society of Bone and Joint Surgery

Oral rivaroxaban for the prevention of symptomatic venous thromboembolism after elective hip and knee replacement

Sir,

We read with interest the papers by Eriksson et al1 and by Cusick and Beverland2 in the May 2009 issue, entitled “Oral rivaroxaban for the prevention of symptomatic venous thromboembolism after elective hip and knee replacement” and “The incidence of fatal pulmonary embolism after primary hip and knee replacement” and “The incidence of fatal pulmonary embolism after elective hip surgery is not a high-risk procedure for fatal pulmonary embolism.” We also note the difference between efficacy results in a controlled, limited clinical endpoints, which look at different populations. This underscores the importance of endpoint when studying venous thromboembolism.

It is also interesting to note the significantly different age profiles in the two studies, which look at different populations. This problem is not controlled, but randomised, population and effect - namely their general translation to the whole population. This was the subject of review by the NHS Health Technology Assessment report (HTA),3 which counsels against the use of such surrogate endpoints, stating that “reliance on surrogate outcomes can ultimately lead to harmful patient outcomes”. Cusick and Beverland2 report a rate of fatal pulmonary embolism of only three in 4253 (0.07%) cases of hip or knee arthroplasty. This rate is very similar to the rate of fatal pulmonary embolism of 0.06% observed in a series of 5100 total knee arthroplasty cases from our unit.4 Taking together these two independent, unfunded studies using hard clinical endpoints, we agree with the conclusion of Cusick and Beverland2 that, in patients without additional risk factors, arthroplasty surgery is not a high-risk procedure for fatal pulmonary embolism.

doi:10.1302/0301-620X.92B3.24657
R. A. E. CLAYTON, BSc, MBChB, MRCSEd, Specialist Registrar
P. GASTON, MBChB, FRCSEd(Tr & Orth)
C. R. HOWIE, MBChB, FRCSEd, FRCSEd(Orth)
Royal Infirmary of Edinburgh,
Edinburgh, UK.

Author’s reply:

Sir,

We thank Messrs Clayton et al for their interest in our paper. However, we have to correct a misinterpretation of our study: surrogate endpoints were not used in this analysis; only pre-specified symptomatic endpoints were included. The large patient numbers in our database allowed an analysis of the composite endpoint of symptomatic venous thromboembolism (VTE) and all-cause mortality.

The incidence of fatal pulmonary embolism is now a rare event in this population and, as Clayton et al discuss in their paper, it is very large patient numbers would be required to demonstrate a significant reduction in fatal pulmonary embolism. The incidence of fatal pulmonary embolism is reported in our paper (0% with rivaroxaban, < 0.01% with enoxaparin regimen). However, as clinicians are well aware, the reported incidence of fatal pulmonary embolism is not always accurate given the low autopsy rate.

We also note the difference in age profiles between our study and that of Cusick and Beverland,4 the patient demographics in the RECORD 1-3 analysis were representative of those seen in clinical practice, as supported by demographic data from the GLORY registry.5 Importantly, in our study there was no upper age limit, no weight limit and, although not a predominant subgroup, patients undergoing revision surgery were included.

doi:10.1302/0301-620X.92B3.24658

B. I. ERIKSSON, MD, PhD
Orthopaedics Department
Sahlgrenska University Hospital, Mölndal, Sweden.

A. KAKKAR, MD, PhD
Barts and the London School of Medicine and Dentistry, London, UK.

A. G. G. TURPIE, MD
M. GENT, DSc
McMaster University, Hamilton, Ontario, Canada,

M. R. LASSEN, MD
Hørsholm Hospital, Hørsholm, Denmark.