Cardiovascular disease

Non-major bleeds less frequent in AF patients on apixaban

Non-major bleeding was substantially less in patients on apixaban compared with those on warfarin in the Apixaban for Reduction in Stroke and other Thromboembolic Events in Atrial Fibrillation (ARISTOTLE) trial.

A total of 18,140 patients with atrial fibrillation (AF) who had received at least one dose of apixaban or warfarin were evaluated. Non-major bleeding was a composite of clinically relevant bleeding (i.e. that was not major but led to hospital admission, medical or surgical treatment, or a change in antithrombotic therapy) and minor bleeding.

Major bleeding is defined as bleeding accompanied by a decrease in the haemoglobin level of at least 2 g/dL or requiring a transfusion of at least two units of packed red blood cells, occurring at a critical site, or resulting in death.

Non-major bleeding was three times more common than major bleeding, 2,204 cases (12.1%) vs 692 (3.8%). Non-major bleeding was less frequent with apixaban than warfarin 6.4 vs 9.4 per 100 patient-years; HR 0.69 (95% CI: 0.63-0.75).

The most frequent sites of non-major bleeding were haematuria (16.4%), epistaxis (14.8%), gastrointestinal (13.3%), haematoma (11.5%) and bruising (10.1%), accounting for 69% of non-major bleeds. Medical or surgical intervention was similar among those with non-major bleeding on warfarin versus apixaban (24.7% vs 24.5%).

Clinically relevant, but not major, bleeds were independently associated with an increased risk of overall death HR 1.70 (95% CI: 1.32-2.18) and subsequent major bleeding HR 2.18 (95% CI: 1.56-3.04).

These results suggest that less severe forms of bleeding in patients with AF treated with anticoagulation therapy can be important and might not be quite as minor as we had previously thought.

The study authors conclude: 'These findings reinforce the safer profile of apixaban versus warfarin for patients with AF, and highlight the importance of any severity of bleeding in patients with AF treated with anticoagulant therapy, suggesting that non-major bleeding, including minor bleeding, might not be minor.'

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Bahit MC, Lopes RD, Wojdyla DM et al. Non-major bleeding with apixaban versus warfarin in patients with atrial fibrillation. *Heart* 2017;103:623-28

Obstetrics and gynaecology

Gestational diabetes is on the increase

The prevalence of gestational diabetes mellitus (GDM) has been increasing over the past three decades, a large retrospective cohort study from the US has shown.

Using data from the National Hospital Discharge Survey database between 1979 and 2010, a cohort of 124,352,115 pregnant women aged 15-49 years, were identified retrospectively. Of these, 3,337,284 developed GDM (2.7%).

The prevalence of GDM over time was addressed by collating data into five-year groupings for maternal age, and infant birth period. The effect of temporal changes in GDM prevalence was calculated looking at these two variables. Demographic data were available on marital and social status, chronic and gestational hypertension, multiple pregnancy and preeclampsia. However, data on maternal obesity and smoking were not recorded. So for this part of the analysis separately collected national data were used for comparative purposes.

Between 1979-81 and 2008-10 there was a highly significant increase in prevalence of GDM, from 0.3% to 5.8% of deliveries

The prevalence of GDM rose through successive five-year periods studied from 1980 onwards. For example, in women aged 25-29 years the prevalence rose from 0.2% of deliveries in 1980 to 6.2% in 2010. This increase was observed across all age groups. GDM prevalence also rose with increasing maternal age through all time periods. So, for example, the GDM prevalence among 15-19 year olds in 2010 was 1.6% but for 40-44 year olds it was 14.3%.

A complex regression analysis, taking into account the incremental effect of GDM, calculated that there was a slight increase in stillbirth rates of 0.7% in women with GDM over time (i.e. 1979-81 to 2008-2010); risk ratio (RR) 0.007 (95% CI: 0.007-0.008). Over the same period, a similar analysis showed a decrease in large for gestational age/macrosomia rates in women with GDM; RR -1.84 (95% CI:-1.80 to -1.88).

'The decreased prevalence of large for gestational age and macrosomic infants in the setting of increasing GDM rates supports current screening and diagnostic criteria,' the authors say.

This study has its weaknesses; it had to use imputed data on maternal weight and the criteria for diagnosing GDM has changed over the past 30 years. However, the very large numbers studied, and the long time period surveyed, do lend its findings considerable weight.

What the authors were not able to do was firmly associate the rising rates of GDM with its most likely fellow traveller, rising rates of maternal obesity. However, they conclude: 'The prevalence of GDM has been increasing in the US over the past three decades. The observed period effects are consistent with the trend towards increasing pre-pregnancy BMI.'

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Lavery JA, Friedman AM, Keyes KM et al. Gestational diabetes in the United States: temporal changes in prevalence rates between 1979 and 2010. *BJOG* 2017;124:804-13