

HIPS/26/1024 - Transmission of intracerebral haemorrhage risk via transfused blood components

Stroke is a leading cause of death and disability in the UK. Although only a quarter of all strokes are due to intracerebral haemorrhage (ICH), this subtype is responsible for nearly half of stroke-related deaths. A common cause of ICH is cerebral amyloid angiopathy (CAA), in which the protein amyloid-beta ($A\beta$) builds up in the walls of cerebral blood vessels. Recent large-scale epidemiological data from Scandinavia suggest that ICH risk can be transmitted through blood transfusions. The most biologically plausible explanation is iatrogenic transmission of $A\beta$ pathology in a manner akin to prions. Several cases of iatrogenic CAA have been recognised and reported internationally, occurring as a consequence of $A\beta$ transmission via other routes. Replication of the Scandinavian study outside Scandinavia is therefore a research priority, but few countries can do this, as most do not routinely collect and retain data linking donors and recipients. Scotland is one of the few places where this is possible. We plan to replicate the Scandinavian study by creating a new linked dataset for blood donors and recipients in Scotland, which we will then link to strokes of different types in Scotland. Our findings will determine the risk of blood transfusion, and therefore contribute to better understanding the safety of blood transfusions. Working in close partnership with the Scottish National Blood Transfusion Service will enable us to translate any findings rapidly and effectively into practice.