Reviewer's report

Title: Abnormal systemic venous connection possibly associated with a persistent right umbilical vein.

Version: 1 Date: 25 February 2004

Reviewer: Jan Holt

Reviewer's report:

General

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)
None.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
None.

Discretionary Revisions (which the author can choose to ignore)

When inserting a catheter into an umbilical vein, the catheter is supposed to pass to the hepato-cardiac part of the inferior vena cava or to a hepatic vein. In this case the x-ray examination showed an abnormal course, contrast medium injection revealed this "vessel" to be connected to the superior vena cava and no connection to the inferior vena cava could be traced. For clinicians inserting umbilical venous catheters it might be very interesting to learn that the catheter may bypass the liver.

To explain their findings the authors suggest a connection between vitelline sinusoids, a persistent right umbilical vein and a network of cardinal veins. Explaining the development of the venous return from the caudal part of the embryo is a difficult task, and I want to put forward an additional suggestion. The development of the inferior vena cava very much dependen of an anastomotic network between the two subcardinal veins. As quoted by Colvin (1): If this anastomoses fails to form normally, the venous return from the lower body will not pass through an intrahepatic portion of the inferior vena cava, but will develop as a persistence of some other embryonic venous pathway, usually as an “azygos continuation”.

An “azygos continuation” may explain why a persistent right umbilical vein drained to the superior vena cava as the cranial end of the azygos vein together with part of the right precardinal vein forms the upper part of the superior vena cava (2).

References

What next?: Accept without revision
Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:

None.