

## CAECAL INFARCTION: A VERY RARE COMPLICATION OF ARTERIOGRAPHY

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We report an unusual case of a 44 year old woman who developed caecal infarction following a routine percutaneous transfemoral arteriography performed for worsening intermittent claudication. Bahrain Med Bull 1995;17:

Percutaneous transfemoral arteriography (PTA) is a relatively safe procedure, with overall morbidity and mortality of less than 2% and 0.05% respectively<sup>1</sup>. Whilst most complications are related to the puncture of the artery, more serious problems have been encountered secondary to mechanical damage and embolisation during catheter manipulation.

Fatal bowel infarction following arteriography has been described, often in association with other visceral infarctions, due to disseminated cholesterol embolisation<sup>2,3</sup>. Infarction of a restricted segment of the bowel wall is, however, exceptionally unusual. We report a case of limited areas of caecal infarction following PTA.

### THE CASE

A 44 year old woman underwent PTA for worsening right calf claudication. This revealed marked stenosis at the origin of the right common iliac artery and a hypertrophied inferior mesenteric artery. The superior mesenteric artery could not be demonstrated and attempted selective catheterisation failed. Thirty two hours after arteriography, she developed right iliac fossa pain and vomiting with pyrexia, tachycardia and leucocytosis. Her condition deteriorated over a short period of conservative management, and signs of right iliac fossa peritonism became apparent. Emergency laparotomy demonstrated a discrete gangrenous circular area 3 cm in diameter on the anterior surface of the caecum. Limited right hemicolectomy was performed following which she made an uneventful recovery. The right common iliac stenosis was subsequently treated by PTA.

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Histological examination of the resected specimen showed features consistent with recent infarction (Fig 1 & 2).

### DISCUSSION

Although the percutaneous femoral approach is considered both safer and easier than the other routes for selective and superselective angiography<sup>1</sup>, complications do occasionally occur. Galluci, et al for example, reported a case of multiple renal infarctions following selective renal angiography<sup>4</sup>. Hessel et al found embolism and catheter breakage to be more frequent with the transfemoral approach, although the difference was insignificant when compared with the translumbar and transaxillary routes<sup>1</sup>. They also reported one death, due to bowel infarction, following arteriography<sup>1</sup>. Fatal gut and other visceral infarctions, e.g. liver, spleen, kidneys, adrenals and thyroid, due to

disseminated cholesterol crystal microembolisation following vascular catheterisation, have been reported<sup>2</sup>, and the pathology was extensively reviewed<sup>3</sup>. It is believed that the catheterisation procedure is not the sole cause of disseminated microembolisation but an aggravating factor in the disease process<sup>3</sup>. In our case, we believe that the attempted selective catheterisation of the diseased superior mesenteric artery, caused the release of microemboli which lodged in the arterioles of the bowel wall, leading to ischaemic infarction of the affected area of the caecum, with subsequent venous thrombosis. Unlike other cases of visceral infarction, cholesterol crystal emboli could not be demonstrated. Why an isolated area of the caecum was extensively affected, is difficult to explain.

#### CONCLUSION

We report this case to highlight this rare but serious complication which might arise on attempted catheterisation of any diseased vessels.

#### REFERENCES

1. Hessel SJ, Adams DF, Abrams HL. Complications of angiography. Radiology 1981;138:273-81.
2. Gaines P, Cumberland DC, Kennedy A, et al. Cholesterol embolisation: a lethal complication of vascular catheterisation. Lancet 1988;1:168-70.
3. Kennedy A, Cumberland DC, Gaines P, et al. The pathology of cholesterol embolism arising as a complication of intra-aortic catheterisation. Histopathology 1989;15:515-21.
4. Galluci M, Alpi G, Cassanelli A, et al. Renal infarction secondary to selective arteriography. Rays 1985;1:95-7.