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Assessing the effect of radiological contrast media on renal function & inflammatory markers in people with diabetes. M Baxter, Y Gu, C Gooday, D Morrow, K Dhatariya. Norfolk & Norwich, UK

Aim: people with diabetes are at increased risk of microvascular and macrovascular complications. Contrast media is commonly used in the assessment of peripheral vascular disease. It has been previously noted that pre-existing renal impairment can worsen with use of contrast media. We aimed to assess the effect of contrast media on renal function in patients with diabetes undergoing angiography for assessment of lower limb vascular disease. We also wanted to assess the effect of contrast on haemoglobin (Hb) and inflammatory markers. **Methods**: We retrospectively identified all patients with diabetes who underwent a lower limb angiogram between 1/1/09 to 31/12/10. We compared their baseline renal function (creatinine and eGFR) with 24, 48 and 72 hours post-contrast values. We also looked at the effect over the same time period on Hb, white cell count (WCC) and its subsequent breakdown and C-reactive protein (CRP). We used a student paired t-test to determine significance between groups**. Results**: Of the 84 patients, 7 did not have data available. In the remaining 77, renal function was significantly worse 72 hours post contrast (Cr +17.71µmol/L, p=0.015, eGFR -5.13, p=0.0085) and also significantly worse between 24 hours and 48 hours post-contrast (p=0.0377). Hb was significantly lower at both 48 hours (mean -0.745 g/dL, p=0.0074) and at 72 hours (mean -0.793 g/dL, p=0.0015). Although WCC or CRP were not statistically different, the level of lymphocytes were significantly reduced at both 48 hours (average -0.474 x 10^9/L, p=0.0031) and at 72 hours (average -0.354 x 10^9/L, p=0.0081). Of particular note is that 28 of the original 84 patients had died within 3 years of their index angiogram (33.3%). **Conclusions:** Despite the IV fluids given pre and post contrast media administration, a negative effect on renal function was still observed over 72 hours. The key point appears to be between 24 and 48 hours when IV fluids were likely to be stopped. A fall in haemoglobin was also observed – the administration of IV fluids may explain this. Although WCC does not fall, the proportion of lymphocytes does, which may suggest an effect of the contrast media on lymphocyte production.