

EFFECTS OF IRON TREATMENT PATHWAY ON MACROPHAGE POLARISATION IN COLORECTAL CANCER PATIENTS WITH IRON DEFICIENCY ANAEMIA

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Poster

Colorectal

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A randomised trial in anaemic colorectal cancer patients found that intravenous ferric carboxymaltose, compared with oral ferrous sulphate, significantly increased M1 macrophages in the tumour microenvironment.

KEY POINTS

- Patients with colorectal cancer and iron deficiency anaemia were randomised to receive oral ferrous sulphate (n=20) or intravenous ferric carboxymaltose (n=20), with tumour tissue analysed using immunofluorescence microscopy.
- Macrophage expression was significantly higher in tumour tissues from patients who received intravenous ferric carboxymaltose compared with oral ferrous sulphate ($p<0.02$).
- The number of M1 polarised macrophages was significantly higher in the tumour microenvironment of patients treated with intravenous ferric carboxymaltose than in those treated with oral ferrous sulphate ($p=0.01$).
- There was a non-significant trend towards increased M2 polarised macrophages in tumour samples of patients treated with oral iron.
- The authors suggest this is the first human study investigating the effect of iron treatment on macrophage phenotype within the tumour microenvironment and propose that intravenous ferric carboxymaltose may be preferable to oral ferrous sulphate.

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