P005 Expression patterns of MMP-9 in primary and secondary colorectal adenocarcinoma in humans.

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In human colon cancer, matrix metalloproteinase-9 (MMP-9) is expressed in macrophages at the invasive front. In order to compare patterns of expression of MMP-9, we analysed 15 pairs of primaries and their liver metastases by *in situ* hybridisation and immunohistochemistry.
In situ hybridisation confirmed the expression of MMP-9 mRNA in stromal cells at the invasive front of the primary tumour, whereas expression was mainly confined to areas of necrosis in the metastases. Semi-quantitative immunohistochemistry revealed that 10/15 primaries and only 3/15 metastases had more MMP-9 at the margin. Double immunofluorescence staining with MMP-9 and CD68 identified these cells as macrophages. Further analysis of MMP-9 expression in 7 sets of lymph nodes from these patients showed a pattern similar to the primaries, with staining found mainly in areas of fibrosis and additional staining of polymorphonucleated cells throughout the biopsy.
In conclusion, MMP-9 is expressed in macrophages in both primary tumours, their liver metastases and in local lymph node metastases. However, the location of MMP-9-positive macrophages is different. This difference may be explained by the altered properties of the macrophages recruited to the tumour tissue in the three different environments.