Ca. This creates radioresistance, and chemoresistance for all conventional chemotherapeutic agents that might be administered after vinorelbine treatment. Thus, although vinorelbine reduces tumour size, it doesn't result in long term cures due to induction of metastasis and recurrence. Between 25%>40% of tumour cells consisted of cancer stem cells capable of propagating, reproducing and building metastatic and chemoresistant tumours after vinorelbine treatment.

Conclusion To circumvent the distant metastasis of CRC induced by vinorelbine treatment due to stimulation of chemoresistant cancer stem cells, we will need new biological therapies which will eradicate with induction of apoptosis the CSCs through targeting of specific proteins on their plasma membrane.

Competing interests None.

Keywords CRC, cancer stem cells, vinorelbine, metastasis.

PTU-105 TUMOURIGENIC EFFECT OF VINORELBINE ON CHEMORESISTANT CANCER STEM CELL RENEWAL IN COLORECTAL CANCER (CRC) AND ON METASTASIS

doi:10.1136/gut.2011.239301.233

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Introduction Vinorelbine, which is an anticancer cytostatic agent, may shrink tumours but it stimulates production of more cancer stem cells, which then metastasise as a way to survive the cytostatic action of this drug.

Methods Colorectal Ca obtained from patients were treated with vinorelbine. Post-treatment, the tumours were analysed for cancer stem cells using multi-colour flow cytometry methods for detecting markers and receptors on the surface of tumour cells.

Results Post-treatment, we observed remission of the tumour cells and relapse of cancer stem cells characterised by a high proliferation index. There was overexpression of cancer stem cells (CSC) markers, Nanog and BMI1 which renew the CSCs. Other CSC markers that were overexpressed include CD44, CD133, CD44 and DR5 exhibiting cancer cell positive resilience, and chemoresistance. Vinorelbine activated the Notch signalling pathway, and phosphorylated the prosurvival mTOR pathway resulting in mitochondrial polarisation, and enhanced tumour cell proliferation. A common factor overexpressed in all cancer stem cells was Oct4, POU transcription factor protein that converts adult stem cells in cancer stem cells. This makes the square to sickle shift making super cancer cells, which form new incurable tumours despite extensive treatment with vinorelbine. Overexpression of these cancer stem cell markers is associated with resistance to vinorelbine leading to poor outcome for patients with colorectal