CONCLUSION

The aim of the present study was to evaluate the clinical utility of hormones, tumor markers, and peptide and steroid receptors in patients with Dukes B or C colon/rectal cancer.

It was observed that colon/rectal cancer patients had elevated levels of circulating peptide (FSH and LH) and steroid (E and Pg) hormones with concomitant low levels of androgens (T) and its precursor DHEA-S. When peptide and steroid hormones were combined, it was observed that out of seven hormones at least one hormone was abnormal in these patients. From these results it seems that both peptide and steroid hormonal abnormalities may presumably favour the onset of colon/rectal cancer and the altered levels might be responsible for the aggressiveness of colon/rectal cancer. These hormonal abnormalities were severe and/or irreparable in patients with colon/rectal cancer.

Furthermore, estrogen- and progesterone- receptors i.e. ER and PR have been identified in 48% and 55% patients with colon/rectal cancer, respectively. The presence or absence of these receptors revealed no
prognostic utility but it does suggest that these (colon/rectal) tumors are potentially hormone-dependent (high affinity binding proteins are present in the tumors) and that antiestrogen therapy could be useful in patients with advanced (Dukes C) colon/rectal cancer.

Peptide receptors such as prolactin receptors (PRLR) and epidermal growth factor receptors (EGFR) were detected in 54% and 88% of the colon/rectal tumors. Univariate analysis indicated that PRLR and EGFR alone cannot be used as a prognosticator. However, bivariate analysis revealed that PRLR negativity or EGFR positivity with concomitant hyperprolactinemia individualizes high-risk subgroup of patients with aggressive colon/rectal cancer.

The highlight of this investigation is the use of plasma prolactin to help identify low-risk and high-risk subgroups of patients, so that high-risk patients may be followed up more intensively and treated accordingly. Hyperprolactinemia provides additional prognostic information and may be useful as an independent predictor of short-term survival in patients with Dukes B or C colon/rectal cancer.
The changes in PRL levels gave significantly higher predictive power than did CEA levels for detection of occult metastasis as well as response to treatment in patients with Dukes B or C colon/rectal cancer. PRL also showed a lead time of 2-3 months. An early rise in PRL in colon/rectal cancer patients is an important finding and may offer a sensitive means to predict the presence of recurrent disease which is often difficult to evaluate by other means. Thus, serial estimations of rising PRL levels are useful in early diagnosis of progressive disease. CEA was found to be a better marker for monitoring patients who developed liver metastasis.

Moreover, it was observed that PRL or PRL-like molecule is produced ectopically by colon/rectal tumors. Thus, ectopically produced PRL does raise the possibility that anti-prolactin treatment as an adjunct may improve the prognosis of these patients. We currently are investigating the expression of PRL mRNA and expression of tumoral PRL gene sequence in colon/rectal tumors.