

P15**Human chorionic gonadotropin (hCG) induces specific molecular pathway of cell differentiation in the mammary gland of *Macaca fascicularis***

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Epidemiological, clinical, and experimental evidence indicate that the risk of developing breast cancer is markedly reduced in early parous women and in rodents treated with the pregnancy hormone human chorionic gonadotropin (hCG). This protective effect is mediated by the differentiation induced in the breast by the hormones of pregnancy, namely hCG, which imprints in the mammary parenchyma a specific genomic signature associated with lifetime resistance to neoplastic transformation. In the present work we selected the cynomolgus macaque (*Macaca fascicularis*), for evaluating the effect of hCG treatment on mammary gland. For these purposes, seven sexually mature cycling *Macaca fascicularis* were administered intramuscularly 200IU hCG/kg of body weight three times a week during 3 months. Mammary gland biopsies were performed at four time points: 1) beginning of treatment (0 Time Control); 2) at the end of treatment (3 months); 3) three months post-treatment, and 4) six months post-treatment. Mammary tissues were fixed in 70% ethanol and processed for histopathological evaluation and RNA extraction for genomic analysis. The RNA of each animal obtained at each time point, amplified, and hybridized to human cDNA microarrays containing 40,000 features by triplicate, using universal human RNA as reference. Gene expression varied as a function of time of treatment, basically in two different patterns: Pattern A, genes expressed at 0 Time, overexpressed at 3 months post-treatment, for becoming downregulated by 6 months post-treatment, and Pattern B, represented genes downregulated at 0 Time, upregulated at the end of treatment, and significantly overexpressed at 3 and 6 months post-treatment. Pattern A included Ephrin B3, BCL-2 associated X protein, and Homeobox C9 genes. Pattern B included genes involved in the process of differentiation, i.e., CYLC1, BLNK, DAZAP1, NDRG2, FLT1, PRM1, SMURF1, PPARG, PAX8 and TNFSF11, and organogenesis, such as BLNK, FABP7, TCF12, TLE3, APOE, SAS10, TNNT3, BMP2, TNFSF11, UBE3A, FLT1, SMURF1, CUGBP2, KRT5, EGR2, TPM2, PTHR1 and MEF2C. These data further confirm the usefulness of the *Macaca fascicularis* for the analysis of gene expression and the responsiveness of the mammary gland to hormonal treatments. In addition, the data clearly indicate that this species responds, like rodents, to the hCG inducing activation of genes related to the process of gland development and differentiation.

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P16**Preferential left parametrial spread of cancer of cervix**

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Purpose: The purpose of this study is to investigate if there is a preferential lateral spread of cancer cervix either to the left or right parametria.

Methods and Materials: After initial observation of the lead author(KM)more patients with cancer cervix(cacx) spread to left parametria as opposed to the right or both, a prospective case study was carried out. Following pap smear or histopathological diagnosis of all cacx patients, examination under anaesthesia(EUA)was carried out for staging work up. One Gynaecological Oncologist and one Radiation Oncologist independently evaluated the parametrial involvement to the left, right, both or none, which was documented blindly.Between August 2001 and July 2005, eighty five (85) patients were diagnosed to have invasive cacx of Stage IB,IIB and IIIB, mostly of squamous cell variety, but inclusive of other histogenic types. One Local University Gynaecological department and a Canadian regional oncology centre was also recruited for retrospective study of their registered invasive cancer cervix of preceding five years.

Results: Prospective Case study from our centre showed that 81% of cases evaluated had left parametrial involvement,6.7% had bilateral parametrial involvement(KM,HJ). Retrospective study of 28 (Twenty eight) patients with stage IIB cancer cervix of the University hospital Jeddah,of which 74% had only left parametrial involvement(KS). Retrospective analysis of invasive cacx of the Canadian regional oncology centre showed 72%of their patients had only left parametrial involvement(DIH)

Conclusion: Following extensive consultation with various experts and literature review,we were convinced that there is no tumour biological or immunological, host's biological,anatomical or physiological factors which can explain this significant left parametrial preference of spread of cervical cancer. This phenomenon appears to be unassociated with ethnicity, culture, race, religion or geographical boundaries.

Hypothesis: It is hypothesised that this remarkable hitherto unaccounted phenomenon is most likely associated with "handedness" of human race. The fact that 90-92% of all adults are right handed which may have a significant influence on development of this type of cancer spread. Some experimental data and other postulates along with the details of the findings will be presented in defence of this hypothesis, which deserves further study.