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### Canine mammary tumor as a model for breast cancer: An overview

The mammary cancer in dogs is as almost common as in humans. Comparative oncology has made great strides and in the process, numerous animal models for human cancers have been developed. An important aspect of these animal investigations is to search for new therapies. The role of dog as animal model in breast cancer research has been continuously increasing due to its striking genetical, clinical, anatomical, histo-pathological and bio-molecular similarities with man. In addition, a great underutilized reserve of spontaneously occurring mammary tumors in dogs may soon replace the need for experimentally induced and unnatural mammary tumors in mice due to their traceable pedigrees, compressed life span and sharing the environment with people. Canine mammary tumor is unique as it has diverse sub-types like complex carcinomas, sarcomas and carcinosarcomas, further making it suitable for oncology research. Remarkably, the improvement of clinical condition of companion animals, obtained by their enrolment in cancer trials is perceived as of an added value for the whole society. Various aspects of canine mammary tumor research including histological and molecular classification, cytopathology, epithelial-mesenchyme transition, neo-lymphangiogenesis versus neo-angiogenesis, stem cell lineage, causative role of pesticide residues and multi-drug resistance proteins have been studied in our laboratory and elsewhere and novel findings of diagnostic, prognostic and predictive significance have emerged. Comparative oncologists can now test new treatment against early-stage mammary cancers; delivering the drugs just as they would ultimately be in people, thus effective treatments can be developed quickly in dogs and with less health risks to man.

### Biography

Naresh Kumar Sood has completed his PhD, Fellow Royal Veterinary College (Sweden), Fellow, IAVP, Diplomate, ICVP with 30 years of research and academic experience. He is currently working as a Professor and In-charge, Centralized Diagnostic Laboratory. He has 199 Research Publications besides 41 technical publications, 47 lead papers, 3 review articles and chapters in 4 books and guided 9 Masters' and 2 PhD students. He is the Member of 12 professional societies and Headed 9 research projects. He has won over 40 research and teaching awards, comprising 10 student awards and he is a Reviewer for several international and national journals.

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