Special Issue on

QUANTITATIVE PATHOLOGY

Yrjö Collan, Editor

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FOREWORD

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Organizers of an upcoming meeting call quantitative pathology "one of the most important emerging domains of diagnostic pathology" (Palcic 1998). This field applies DNA cytometry, morphometry, stereology, and quantitative immunohistochemistry, including the computerized applications of the mentioned fields. The idea is to use these methods in solving the problems of pathology (Mariuzzi and Collan 1995). Quantitative pathology has been practiced in various forms for a long time, but a real growth in interest occurred at the beginning of 1980'ies. The development was much based on the work of Caspersson, Wied, Chalkey, Glagoleff, Weibel, Underwood, Eränkö, Bartels, and Suwa, who developed methods or produced synthetic presentations. The attention was first focused on suitable methodology (Aherne and Dunnill 1982, Baak and Oort 1983, Collan and Romppanen 1982, Collan et al. 1984, Oberholzer 1983), but applications have been developing since (Baak 1991). The development has also been reflected in special issues of Acta Stereologica (Vol.2, No. 2, pp.203-477, 1983 on "Stereology and morphometry in pathology", and Vol. 11, No.1, pp. 1-136, 1992, on "Quantitative histopathology") the first issue being largely methodological, but later issues, including the present issue on "Quantitative pathology", being more application- and problem-oriented. Today, it is obvious that quantitative pathology is an integral part of pathology. It is interesting how the two most important lines of development, quantitative and molecular pathology (i.e. pathology based on molecular biology) are intimately associated with each other in solving the causes and finding potential cures for disease. Stereology has always had an important place in the development of quantitative histopathology (Gundersen et al. 1988), and there is no reason to believe that this will change.

However, one should realise that the constraints of economy and time will shape the applied practices in this field. So fast and reliable methods are often chosen instead of time consuming and reliable methods. There is no reason to think that the attitude among practicing pathologists in this respect will change in the near future. On the other hand, research projects are using also time consuming methods more often than earlier, thanks to the development of computer applications.

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About the Editor

Yrjö Collan, M.D., Dr. Med. Sci. (Helsinki), FRC Path. (London), has been professor at the Department of Pathology, University of Turku, Finland since 1989. From 1980 to 1988 he was professor of pathology at the University of Kuopio, Finland. Through studies on serial sections, Dr. Collan was attracted to ISS in the early 70'ies. He served for a period as the Scandinavian Representative of the Society. He was Research Fellow at the University of Maryland (1974-1975), and at AFIP, Washington D.C. (1988-1989), and contract professor at the University of Ancona, Italy (1983-1985). His present research interests focus on development of diagnostic and prognostic methods in cancer, especially in breast cancer and prostate cancer, applying the methods of molecular pathology in addition to quantitative pathology and stereology. From 1988 to 1992 he was the President of the International Society of Diagnostic Quantitative Pathology. H has been the Leader of the research group "Prognostication and Cancer" (1991-) and has acted as the Coordinator of Turku Cancer Research Program (1995-).