

2000: OVERVIEW

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One of the main problems in making a personal choice among the papers published in EJM during the last year is that they cover a broad variety of topics. This is obviously related to the subject matter of a journal of histochemistry such as EJM, which covers basic research, application to pathology, new techniques and so on. In this context, I appreciate that in 2000 EJM has published two almost monographic issues, based on symposia on nuclear lipid signalling and on apoptosis. The idea of introducing issues dedicated to the multifaceted aspects of a problem gives the reader, in my opinion, the opportunity to broaden one's interests or curiosity. The papers in these issues are in fact from groups which are well-known in the field and each one presents a different part of the spectrum of the problem.

Issue 1 is devoted to a nuclear lipid signalling symposium. Signal transduction and the involvement of phospholipids also in nuclear functions are rather recent achievements of cell biology and they are full of promises. Here are discussed the stimulating findings on the role of inositides in the nucleus (D'Santos *et al.*, vol. 44, pp. 51-60), the role of the nuclear envelope in phospholipid metabolism (Raben and Baldassarre, vol. 44, pp. 67-80) as well as the localization of intranuclear domains involved in inositol lipid signal transduction (Maraldi *et al.*, vol. 44, pp. 81-88). The role and the function of these nuclear components are being clarified and a new vision of the complex mechanisms which are at the basis of the cell function is appearing.

In the issue devoted to the symposium on apoptosis, Dini (vol. 44, pp. 217-228) reviews, in particular, the mechanisms involving cells able to recognize dying cells, in particular on the role played by the liver in the removal of apoptotic blood cells. Phagocytosis is a primary mechanism used by organism to get rid of apoptotic cells and, in the long run, to take advantage of programmed cell death. A correct and clean elimination of dead cells is in fact one of the basis of omeostasis and equilibrium of the whole organism.

In the same line, the paper by Rovere *et al.* (44, pp. 229-246) deals with apoptosis and autoimmunity. Programmed cell death provides most of the raw material used by the immune system to establish self-tolerance. Dendritic cells are the most potent antigen-presenting cells, and the mechanisms at the basis of their function are of primary importance in order to clarify their role in autoimmune disease.

Bonanno *et al.* (vol. 44, pp. 237-246) describe the modifications occurring in the cell shape and organelles in apoptotic cell cultures: The changes in the relationship between actin filaments and plasma membrane (Spano *et al.*, vol. 44, pp.255-268) as well as the modification of RNPs in apoptosis (Pellicciari *et al.*, vol. 44, pp. 247-254) are other aspects of apoptosis. Apoptosis is indeed a research field in which a great deal of research is done and researches tackling it from different sides are important to give a view as clear as possible. The implications of apoptosis toward pathology, in fact, are not overlooked in this issue.

We have also several interesting reviews: in the first, by van der Ploeg (vol. 44, pp. 7-42), we find an accurate description of the cytochemical methods and findings of the research on nucleic acids during the XXth century. After reading the paper, we agree with the author that the first sentence, taken from a paper by Claude, is indeed a beautiful description of what has been acquired by men who, with great humility, have entered the cell, and started to know better the matter of life.

The nucleolus is the topic of the paper by Medina *et al.* (vol. 44, pp. 117-132). An appraisal of previous and recent findings on this organelle in plant cells, but not overlooking the research on animal cells. This is an important paper, since there has been a renewed interest in this field: a series of recent publications has in fact enlarged our view of the nucleolus, especially by pointing at its functions in aging and assembling non-nucleolar protein factors.

Flow cytometry (Toni and Vitale, vol. 44, pp. 315-

324) represent a technique of choice for the study of the cell growth in pituitary gland cells. This technique is one of the methods of choice to study the growth of the different cell elements in normal and in neoplastic conditions.

I will underline just a few papers in the different sections in which the published papers can be divided.

In the Basis histochemistry, we find the paper by Neri *et al.* (44, 193-198) in which confocal microscopy is used to gain quantitative data on *in situ* hybridised tissue sections. Messenger RNA detection is still a delicate technique and the authors carefully explore the different conditions which can give a sure, reliable and reproducible method. Pšenicnik and Jezernik (44, 345-352) describe in detail the role played by the Golgi apparatus in the differentiation of mouse urothelial surface cells. Collagen-proteoglycan interaction is the topic of the paper by Raspanti *et al.* (vol. 44, pp. 335-344): the use of scanning and atomic force microscopy offers new insights into the complex architecture of collagen fibers.

Histochemistry and pathology is the other section: here we find, as usual, most of the papers published in EJH. Here I will quote the interesting data by Khaled *et al.* (vol. 44, pp. 143-156) on the early progression stage of malignancy in uterine dysplasia studied by DNA-instability. Sanna *et al.* (vol. 44, pp. 179-184) propose *in situ* PCR for the detection of *Mycobacterium paratuberculosis* in paraffin-embedded tissues.

In Technical improvements, we find the paper by Angeloni *et al.*; (vol. 44, pp. 199-204) describing the production and characterization of antibodies directed against melatonin receptors. All the researchers utilizing immunoprobes know well how important is to have antibodies which do work and are not tricky tools!

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