

LETTERS TO THE EDITOR

Dear Sir,

The study performed by Pérez-Platz et al. [4] on the adrenal gland modifications in the "sudden infant death syndrome (SIDS)" is very worthy of consideration.

For a long time I routinely studied the adrenal gland modifications in the majority of cases of death examined from 1958 until now.

I am convinced of the utility of the adrenal gland examination in all necroscopies, not only to identify the causa mortis, but also to estimate the length of illness and of the agonal state and, when death is instant, of the psychological state ante-mortem: whether death was preceded or not by psychological, physical or psycho-physical stressful conditions.

For these purposes I consider it essential to use the lipid staining procedures for the adrenal cortex, examining the slides both under transmitted and polarized light. In fact, whereas in the normal cortex the lipids are aggregated in medium/large droplets and appear birefractive, in the acute stimulated cortex the lipid droplets are reduced in volume and become very small, losing their birefractivity: in some cases lipids can appear normal, not depleted, under transmitted light but their depletion may be evident under polarized light.

Usually the pathological stimulus simultaneously involves both external layers of adrenal cortex, glomerulose and fascicolata, although only the latter is involved in ACTH secretion. This is because the adrenal medulla is also involved in whatever stress it stimulates, through the renin-angiotensin system, the glomerulose layer to secrete aldosterone [1, 3].

The isolated involvement of the glomerulose layer is exceptional and appears only in pharmacological causes [2].

In my experience, the vacuolization of pituitary ACTH secreting cells, as observed by Reuss et al. [5] in his study on SIDS, is a common feature in all cases in which death was preceded by a more or less long agonal period or when a physical or psychological stress precedes death. The vacuolization expresses the release of cellular hormonal content in the blood stream.

I am enclosing two of my papers regarding this topic in which the short summary is in English [1, 2].

References

1. Aragona F (1990) L'immagine istologica delle surrenali quale test psicologico post-mortale. Riv Ital Med Leg 12 : 125–138
2. Aragona F (1992) Sull'attivazione iatrogena isolata dello strato glomerulare della corteccia surrenale. Riv Ital Med Leg 14 : 869–872
3. Aragona M, Aragona F (1994) Chronic stress and histologic effects on the human central nervous system and other organs. Functional Neurology, in press
4. Pérez-Platz U, Saeger W, Dhom G, Bajanowski T (1994) The pathology of the adrenal glands in Sudden Infant Death Syndrome (SIDS). Int J Leg Med 106 : 244–248
5. Reuss W, Saeger W, Bajanowski T (1994) Morphological and immunohistochemical studies of the pituitary in Sudden Infant Death Syndrome (SIDS). Int J Leg Med 106 : 249–253

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Reply

We appreciate the comment submitted by Dr. Aragona. We agree with him in his interpretation and drew the same conclusions in our paper that the local lipid depletion of the adrenal cortex in SIDS must be a sign of increased hormone release. It is well known [3, 4] that this important reaction is the response of the adrenals to stress stimulus including the agonal stress.

We were not able to perform lipid staining methods because only paraffin-embedded material was available. So we could only evaluate the degree of lipid depletion in haematoxylin-eosin stained sections.

We have now read the papers of Dr. F. Aragano [1, 2] with great interest and thank him for these references which we could not cite before as the Journal "Revista italiana di medicina legale" is not included in Current Contents or Index medicus.

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References

1. Aragona F (1990) L'immagine istologica delle surrenali quale test psicologico post-mortale. Rev Ital Med Leg 12 : 125–138
2. Aragona F (1992) Sull'attivazione iatrogena isolata dello strato glomerulare della corteccia surrenale. Rev Ital Med Leg 14 : 869–872
3. Dhom G (1981) Die Nebennierenrinde. In: Doerr W, Seifert G (eds) Spezielle pathologische Anatomie. Springer, Berlin Heidelberg New York, pp 729–970
4. Symington T, Diguid WP, Davidson JN (1956) Effect of exogenous corticotropin on the histochemical pattern of the human adrenal cortex. J Clin Endocrinol Metab 16 : 580

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