Letters to the Editor

Coronary artery dissection

Coronary artery dissection is an unusual cause of sudden death and the diagnosis is rarely made in life. It may, however, be more common than the few reported cases suggest, as it may be confused with thrombosis at necropsy unless a careful examination of the occluded vessel is made. We report two cases, the first a housewife aged 47, who was found dead in bed by her husband shortly after complaining of chest and arm pain, and the second a housewife aged 35 who died suddenly after complaining of similar symptoms while eating in a restaurant.

In both of these cases the cause of death was coronary occlusion due to coronary artery dissection. In the first, the occlusion was thought to be thrombotic at necropsy and the correct diagnosis was made only on histological examination. The dissection was recognised at necropsy in the second case after careful inspection of the vessel, the appearance initially suggesting thrombosis. The vessels affected were, respectively, the left circumflex and right coronary arteries, and in each case the dissection occurred close to the origin of the vessel. The histological appearances were virtually identical, the dissection occurring, not within the media as in dissecting aortic aneurysm but adjacent to the external elastic lamina. (figure). This is presumably related to the structure of the coronary vessels, which are muscular rather than elastic arteries. Neither of the arteries was atheromatous or showed convincing mucoid medial degeneration. No intimal tear was demonstrable in relation to the dissection in either vessel, and there was no evidence of dissection or intimal tearing in the aortic roots.

Coronary artery dissection is a rare condition judging by the small number of reported cases. It accounted for 28 of 130 cases of non-aortic dissection gleaned by Guthrie and Maclean in their study,[1] which also showed a strong female preponderance, perhaps because pregnancy is a predisposing factor. Nalbandian and Chason[2] reviewed nine cases, including two of their own, and concluded that there was no common aetiological factor, but they did note that in their series the affected artery was, in all except one case, the anterior descending branch of the left coronary.

Distinguishing solitary coronary dissection from acute thrombotic occlusion would rarely be possible in life, but the correct diagnosis, albeit after death, in a relatively young person is of some importance for other members of the family; premature coronary artery disease due to familial hyperlipoproteinaemia can then be excluded.

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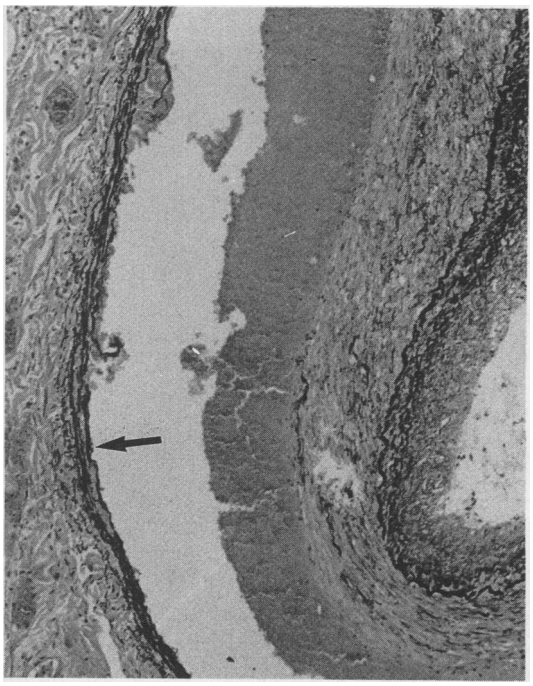

Dissection has occurred adjacent to external elastic lamina (arrow).

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Granulocyte markers cathepsin G and leucocyte elastase are rarely observed in Reed-Sternberg and Hodgkin's cells

Recently there has been an increasing search for reliable histopathological markers of Reed-Sternberg and Hodgkin's cells in Hodgkin's disease. Initial demonstration of certain proteins and enzymes, such as immunoglobulin light and heavy chains, muramidase, albumin, α_1-antitrypsin, and α_1-antichymotrypsin were variously taken as evidence that these cells were of B cell or histiocytic lineage, or that they were effete, end stage cells with "leaky" membranes, permitting ready ingress of macromolecules. In the absence of direct evidence of synthesis or active synthetic apparatus in vitro, however, many of the conclusions drawn were purely presumptive. The availability of reliable markers for Reed-Sternberg and Hodgkin's cells in tissue sections is of more than academic importance; this has been emphasised more recently with the use of T cell markers. The use of these markers has often shown that many specimens previously classified as Hodgkin's disease are, in fact, of T cell lineage.

Accordingly, more recently, interest has arisen in Reed-Sternberg and Hodgkin's cell markers detectable by monoclonal antibodies. These have included antibodies such as Ki-1[1] directed against a population of lymphoid cells, and more recently, a range of antibodies reactive with granulocyte

series cells. These latter markers have recently been reviewed by Crocker and Burnett.[2] The preparations usually bind to "X-hapten"—that is, 3-fucosyl-N-aretyl-lactosamine (3fNa) and include Leu M1, 3C4, VEP8 and 9, and AGF 4·48.[2] The epitopes labelled by these antibodies, however, are widespread in many tissues, including those of epithelial type.[2] It is dangerous to presume that shared epitopes imply a common ontogeny, but, it would be interesting to speculate on a common ancestry between granulocytes and Reed-Sternberg and Hodgkin's cells.

Accordingly, we applied two antisera to cathepsin G[3] and leucocyte elastase[4] to a series of 35 cases of confirmed Hodgkin's disease. These comprised seven each of: lymphocyte predominent, nodular sclerosing type 1 and type 2, mixed cellularity, and lymphocyte depletion Rye subtypes. The antibodies have been shown to be highly specific for granulocyte series cells of maturation stages from promyelocytes onwards, including some myeloblasts.[3 4] Activity of cathepsin G has not been observed in other tissue types, and leucocyte elastase has only otherwise been seen in ileal epithelium.[3]

The antisera were applied to paraffin sections using standard indirect peroxidase, streptavidin-biotin, and immunogold-silver (IGSS) labelling methods.[5] Mature granulocytes were intensely and consistently stained, but only very occasional Reed-Sternberg and Hodgkin's cells reacted; when this occurred, the staining was very weak, even with the IGSS method.

In view of the high specificity of the antisera for granulocyte series cells and the high sensitivity of the IGSS method the findings suggested that if indeed Reed-Sternberg and Hodgkin's cells are related to granulocytes, then they share features only in terms of minor epitopes such as 3fNa, which, themselves, are expressed only on cells from the promyelocytic stage of differentiation.

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Aplastic crisis in haemolytic anaemias not associated with human parvovirus infection

Human parvovirus (HPV) infection causes aplastic crises in children with chronic haemolytic anaemia,[1] but cases of transient erythroblastopenia not associated with HPV infection in previously healthy children have also been described.[2] The aetiological agent is not thought to be the same in transient erythroblastopenia of childhood and aplastic crises in haemolytic anaemias.

During a period of 23 months from March 1984 to January 1986, we saw 24 patients with haemolytic anaemias presenting with an aplastic crisis (nine with hereditary spherocytosis, six sickle cell anaemias, five thalassaemias, one haemolytic anaemia with dyserythropoiesis, and three autoimmune haemolytic anaemias. HPV was isolated by couterimmunoelectrophoresis in one patient with sickle cell anaemia, and serological evidence of recent HPV infection was confirmed by the presence of specific anti-HPV IgM (radioimmunoassay)[3] in 18 others. In the remaining five patients (three with sickle cell disease, two with autoimmune haemolytic anaemia), no marker of HPV infection was found. Other infections excluded were infectious mononucleosis, cytomegalovirus, toxoplasmosis, hepatitis A and B, mumps and rubella. Folic acid concentration was normal in all five.

Our experience confirms that HPV is the major aetiological agent of aplastic crises in patients with chronic haemolytic anaemias (79·2% of our series). The absence of a previous crisis in all 24 patients superficially suggests that the virus might be the only one responsible for such events, but failure to find HPV or specific IgM in five patients implicates other agents as well. Of course, we do not know if the aetiological agent in transient erythroblastopenia of childhood and in aplastic crisis of haemolytic anaemias not associated with HPV infection is the same.

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Immune thrombocytopenia induced by cephalosporins specific for thiomethyltetrazole side chain

Cephalosporins have only rarely been reported as a cause of thrombocytopenia, previous reports having been associated with cephalothin[1–3]: in only one of these was the presence of antibody associated with the drug shown directly.[1] Specific structures with a role in the antigen-antibody interaction have not been identified previously. No report has been found selectively implicating second and third generation cephalosporins as a cause of immune thrombocytopenia.

A 69 year old man was admitted to hospital in November 1984 with chronic staphylococcal cellulitis of the leg of three months duration. He had long standing rheumatoid arthritis and ischaemic heart disease. Previous adverse drug effects included nephrotic syndrome following penicillamine and gastritis after naproxen and indomethacin. The cellulitis had persisted despite treatment with erythromycin, sodium fucidate, clindamycin, rifampicin, flucloxacillin and gentamycin.

In December 1984, the flucloxacillin and gentamycin were stopped and cephamandole started intravenously 1g five times