LETTERS TO THE EDITOR

Increased Subcutaneous Adipose Tissue Blood Flow in UVB-inflamed Human Skin

Fig. 1.

Sir,
The authors of the paper “Increased subcutaneous adipose tissue blood flow in UVB-inflamed human skin” (1) pose interesting questions but they also make certain assumptions, which may be incorrect. The release of mediators of inflammation in the upper dermis is indeed a consequence of UVB injury. However, it is not true that the only way such mediators can spread to subcutaneous tissue is by diffusion. If one inoculates an agent, such as adrenalin, into the upper dermis, one finds that it quickly travels through the lymphatics into the subcutaneous tissues and along lymphatic trunks. One can trace the effect of these agents on subcutaneous blood flow by the white line of vasoconstriction which appears in the upper dermis underlying the lymphatic, extending many centimetres proximally. The adrenalin can diffuse out of lymphatic trunks and affect adjacent arteries and one may assume that vasodilators could do the same. The close anatomical relationship of lymphatic (L) with blood vessel (B) is illustrated in Fig. 1, taken from the deep dermis (2).

The second assumption which may be incorrect is that the only significant absorption of Xenon is in subcutaneous adipose tissue. There is, however, around each hair follicle and around each sweat gland a quite substantial amount of dermal adipose tissue (Fig. 2). Is it known what contribution this dermal adipose tissue makes to the clearance of Xenon?

Fig. 2.

REFERENCES


Received September 26, 1990

Terence J Ryan, Department of Dermatology, The Slade Hospital, Headington, Oxford, OX3 7JH.
Response to Dr Ryan's Letter

We are pleased to get this opportunity to reply to the comments of Dr Ryan. The following questions are raised: 1) Do inflammatory mediators influence subcutaneous adipose tissue blood flow (SBF) via lymphatic drainage from the skin to the adipose tissue? An example concern¬ing adrenaline is presented. 2) Do fatty tissue around hair follicles influence 133 xenon washout?

1) The blanching observed along the lymphatic ves¬sels does not necessarily indicate decreased dermal blood flow and is certainly not evidence for decreased SBF. In several situations, pale skin do not reflect diminished skin blood flow, e.g. in cortico¬steroid-treated skin and in the Wronoff ring (1, 2). Communications between the blood and lymphatic system have previously been discussed by Dr Ryan (3). Drainage from venous vessels to the lymphatics has been described, but the reverse flow direction has not been reported. Additionally, the lymphatic vessels transport fluid proximally, not vertically into the depth of the tissues. Consequently, it is most likely that any vasoactive metabolite contained in the lymph will have no influence on SBF.

2) Experiment using autoradiography on frozen tissue and dissections of cutaneous tissue from cutaneous tissue, in the frozen state, suggested that follow¬ing one hour after labelling the 133 xenon was cleared from the skin (4). Secondly, monoeponential washout from selected cutaneous tissue arrange¬ments, implied washout from homogenously per¬fused tissue compartments (1, 4). Consequently, a "sink" caused by fatty tissue around hair-follicles constitutes no pitfall.

REFERENCES


Lars Jëlstrup Petersen1 and Johannes Kjeldstrøm Kristensen2. 1Department of Clinical Physiology and Nuclear Medicine, Bispebjerg Hospital, University of Copenhagen, DK-2400 Copenhagen and 2The Skin Clinic, Hvidovre Hospital, University of Copenhagen, DK-2650 Hvidovre, Denmark.

An Accidental Tattoo

Sir,

Generally speaking, tattoos are divided into two groups - decorative tattoos performed by professional tattooists, and accidental tattoos which arise from pigmented particles accidentally introduced as contaminants of wounds or by penetrating previously intact skin. However, rarely accidental tattoos are figurative and therefore it was considered of interest to report a case with a remarkable personal history.

A 42-year-old man presented with a tattoo on the medial aspect of his left thigh (Fig. 1). He was employed as a livestock transporter by a company for the collecting of pigs. He visited several farms every day with his lorry and at the end of the day he brought the pigs to the slaughterhouse. In order to...