A new method of obtaining human skin inflammatory exudate for pharmacological analysis

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The value of the perfusion technique in obtaining inflammatory exudate is limited by its relative insensitivity and lack of quantification, due to the diluting effect of the infusing fluid (Greaves & Søndergaard, 1971).

In order to overcome these problems we have devised a new method in which fluid contents of suction bullae raised on inflamed skin are used as a source of exudate. Bullae, 6 mm in diameter were raised at a pressure 200 mmHg below atmospheric, in approximately 120 minutes. Volumes of exudate of 0.5 ml or more were aspirated immediately into a polythene syringe with a 26 gauge needle. Exudates from skin inflamed by topical application of tetrahydrafurfuryl nicotinate (Thurfyl nicotinate) and from normal skin were compared. Thurfyl nicotinate exudates tested on a superfusion cascade bioassay system caused contractions of the rat stomach and rat colon equivalent to 48.3 ± 7.5 ng/ml, $n = 15$ (mean ± s.e. mean) of prostaglandin (PG)-like activity estimated in PGE_2 equivalents. Exudate from normal skin showed 14.6 ± 4.4 ng/ml ($n = 18$) PGE_2 equivalents. There was no increase shown either in histamine or in bradykinin in the thurfyl nicotinate inflamed skin.

The presence of significantly increased PGE_2 and PGF_2 activity in the thurfyl nicotinate reactions was subsequently confirmed by gel partition chromatography and radio-immunoassay. Prior oral administration of aspirin (600 mg 4 hourly for 24 h) decreased PG-like activity, and reduced the thurfyl nicotinate erythema.

Light and electron microscopic studies revealed the level of separation of the bulla to be in the septa lucida, between the basal cell plasma membrane and the basal lamina. Other physical characteristics of the exudate from normal and thurfyl nicotinate inflamed skin will be demonstrated.

References

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Aberdeen-Dundee medicines evaluation and monitoring group

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The Aberdeen-Dundee Medicines Evaluation and Monitoring Group (MEMO) has evolved from a drug monitoring system developed in Aberdeen since 1964. The main activities of the group include investigations into:

(i) suspected drug adverse reaction associations,
(ii) aspects of drug efficacy,
(iii) drug utilization, and
(iv) an educational role related to maintenance of the hospital drug handling system and feedback of information derived from the above.

The data base of the system is the linkage of individual patient records of drug presentation and administration, to hospital morbidity data. A computer file of over one million prescriptions and 250,000 discharges has thus been created indexed by age, sex, diagnosis or drug, as required.

The staff comprising in whole-time equivalents — 4 professional workers and 5½ clerical assistants now handle 70,000 discharges and 250,000 prescriptions per year from a total population of 750,000.

The basic system is presented and the following topics selected to illustrate different aspects of its activities: (a) processing drug names, (b) improving hospital prescribing, (c) information for users, (d) prescribing outwith hospital.