Title: DERMAL CHOLIC ACID AS ANTI-INFLAMMATORY AND THERAPEUTIC AGENT

Abstract: The invention relates to therapeutic activities of steroids. Pure cholic acid suspended in vaseline base exhibited an anti-inflammatory activity when applied topically to inflamed joints and haemorrhoids. It revealed, via the same route of administration, diverse therapeutic potentials. The acid-steroid might have the advantage of reduced adverse effects and wider curative spectrum over corticosteroids. Production of cholic acid preparations for medicinal and cosmetic purposes is required to be protected as well as the idea.
Dermal Cholic Acid as Anti-inflammatory and Therapeutic Agent

Description

Technical field:
The invention relates to therapeutic activities of steroids.

Background art:
In inflammatory conditions, albumin half-life time was reduced and its daily synthesis increased\(^1\). Capillary permeability is also increased\(^2\). The later event might promote plasma proteins extravasation with important metabolic consequences, among which is activation of nicotinamide deamidase by albumin\(^3\).

The anti-inflammatory action of cortisone, a corticosteroid, might be well related to the effects of cortisone on albumin metabolism as it increased albumin turnover\(^4\), stimulated albumin synthesis and caused a shift of extravascular exchangeable albumin into the plasma\(^5\). Cortisone suppressed mucopolysacharide formation\(^6\), probably via increasing intravascular albumin availability, thus probably diminishing albumin extravasation via decreased capillary permeability to plasma proteins\(^7\). This might explain, at least in part, the non-specific mode by which hyperphysiological doses of hydrocortisone markedly lowered the activity of hepatic nicotinamide deamidase\(^8\). However, in nephrosis, glucocorticoids increased plasma albumin and induced diuresis\(^9\). Likewise, it is thought that cholic acid by influencing albumin metabolism, probably by reducing its catabolic rate\(^7\),
might increase its half-life time thus decreasing mucopolysaccharide formation and thereby exhibiting its therapeautic activities. However, it appears that many adverse-effects concomitant with corticosteroids administration might be diminished by replacement with cholic acid.

The idea behind the invention is the hypothesis\(^7\) that serum albumin metabolism might be the mechanism, probably via folate-B\(_{12}\) cycle, of physiological fine-tunning when our genetic constitution interacts with the environment. However, when serum albumin metabolism, for numerous reasons, is altered; the mechanism of physiological fine-tunning is lost, to different extents, and a state of pathophysiology comes into action.

**Disclosure of the invention:**

Pure cholic acid (NZP, Newzealand) was suspended in vaseline base, The product was topically applied to eleven volunteers with painful swollen joints of different aetiological origins i.e traumatic and connective tissue disease. The product was also applied to nine volunteers with different clinical grades of haemorrhoids. The twenty patients, as well as the clinical examination, showed progressive improvement within three days of treatment.

Scattered observations on this group of patients and others suggest that the product might possess a diuretic, hypotensive, sedative, wound-healing, immunosuppressive, and oestrogen-like activities. Work on therapeutic potentials of the product is in progress. The product might be manufactured in the form of cream, ointment, oral and non-oral preparations.
References:
Claims

1- Protection of production or manufacture of cholic acid preparations for therapeutic uses.

2- Protection of production or manufacture of non-oral cholic acid preparations for therapeutic uses.

3- Protection of production or manufacture of dermal cholic acid preparations.

4- Protection of the idea as a basis for drugs development.