Fatty Frog Deposits?

A recent post to our forum caught my eye, and I thought others would find it interesting. I have copied and paste the post below:

"I was trimming a frog for a new client the other day and a white substance oozed out. It was a bit like Sudocrem (topical zinc oxide cream) in consistency and didn't smell much. The horse wasn't at all lame.

I've never come across anything like it before, her farrier said it was a fatty deposit and entirely normal. Any opinions? "

Response:

I have been trimming hooves for the better part of thirty years and I have seen what one of our students labeled as "frog acne" many times. Even though it is a common occurrence, unlike many farriers that consider it normal, I do not.

With a clearer understanding frog anatomy this modality can better be explained.

The frog horn is produced by the papillae of the frog corium, a thin layer of sensitive tissue that covers the distal (bottom) surface of the digital cushion. The frog tubules are higher (40%) in moisture than the horn of the wall or the sole, and as a result are much more pliable. Keratinization of the cells of the frog horn (epithelium) occurs as they move away from their point of origin. In addition to the tubules produced by the papillae there are merocrine glands within the digital cushion with ducts leading through the frog's horn to the frog's surface. These glands produce squamous epithelium cells that are deposited on the surface of the frog, forming tough leather like layer whose primary function are protection.

In anatomy, **squamous epithelium** (from Latin *squama*, "scale") is an epithelium characterized by its most superficial layer consisting of flat, scale-like cells called squamous cells. The frog's surface epithelium possesses multiple layers of these squamous cells; therefore the frog's surface epithelium is referred to as *stratified squamous epithelium*.

It is very likely that the deposits (milky white discharge) are the result of a blocked duct, resulting in a pocket of un-keratinized squamous cells.

Further histological studies would be needed to identify the cells of these deposits, but because they are considered normal, or superficial these studies are unlikely to occur, but further research may turn up such histological studies.

I hope this helps.

KC La Pierre