stage of rodent ulcer. In the end, however, such warts on the lip are apt to degenerate into deeply penetrating epitheliomata.

Vascular growths may form on the lip, usually assuming the form of venous nævi, dark purplish, soft prominences, of the size of half a pea or larger. They are not very uncommon on the underlip of elderly women, cause no subjective sensations, but are disfiguring. They can be dealt with very satisfactorily by electrolysis.

Fig. 2.—Microphotograph $\times 180$. One of the slender epidermic processes invading the dermis, the abundant small, round-celled infiltration, even the enlarged lymph spaces, are perfectly brought out. At the lower part, to the right, is seen one of the epithelial islets.

One instance has come under my notice where the little tumours of molluscum contagiosum occurred on the prolabium. They were not limited to that region, and if the view be accepted that the ailment owns a glandular origin they may have taken their rise in the labial glands.

ON A PREPARATION OF MILK FOR DIABETIC PATIENTS.

By SYDNEY RINGER, M.D., F.R.S.,
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THE extremely meagre and distasteful diet of diabetic patients induces me to draw attention to a preparation of milk which I hope may be found useful and not distasteful.

In the *Journal of Physiology*, vol. xi, p. 473, and vol. xii, p. 164, in recording experiments with caseinogen and casein, I drew attention to a method of preparing caseinogen from milk, which is freed from all sugar (and salts). The following is the method: Add to a pint and a half of milk about 90 c cm. of a 10 per cent. solution of acetic acid. This precipitates a curd-caseinogen. It should be allowed to settle, and the clear fluid siphoned off and distilled water added. After settling, this should be decanted or siphoned off, and the curd should be filtered and well washed with distilled water. If it is then rubbed up in a mortar with some calcium carbonate, and water is added, and all the caseinogen becomes dissolved, the calcium carbonate soon settles and the milky fluid can be decanted off. The dissolved caseinogen behaves just like milk. If rennet and a calcium salt is added, and the mixture is heated to 40°C ., it quickly clots, the caseinogen becomes changed into casein, which precipitates by combining with the calcium salts.

My friend, Mr. Martindale, with the aid of his ab'e labora-

tory assistant, Mr. Lee, has lately made some of this solution of caseinogen, or in other words, milk without the sugar of milk. They find that the caseinogen settles better after the addition of the acetic acid if the milk is diluted with an equal quantity of water, and they filter and wash the precipitated caseinogen on a calico filter, which allows the washing to be made quicker than in my experiments where I used filtering paper.

On the addition of about 2 per cent. of glycerine to the mixture of caseinogen a not unpalatable form of milk is produced.

THE RED LIGHT TREATMENT OF SMALL-POX.

By NIELS R. FINSSEN, M.D.,
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HISTORICAL.

THE method here treated of, which is the result of half-forgotten empiric experience and modern scientific investigations of light, is of considerable medico-historic importance. In the Middle Ages small-pox patients were treated by wrapping them in red coverings and by putting red balls in their beds. John of Gaddesden treated a Prince of Wales for small-pox by surrounding him with red objects. According to information which has appeared in connection with the new red light treatment, red is as yet much employed in different places in the popular treatment of small-pox. In Roumania, according to Dr. Capitanowitz, the small-pox patient's face and hands are covered with red cloths; Dr. Lassabatie informs us that in Tonkin the patients are placed in alcoves which are closed with numerous red carpets, whilst Dr. Sassakawa reports that in Japan the patients are covered with red blankets, and children with small-pox are given red toys.

This remarkable and uncertain employment of the red colour in the treatment of small-pox has naturally been looked upon as a mediæval superstition, but the numerous new experiments which proved the importance of the red light treatment must undeniably lend them something more than a historic interest.

Whilst engaged upon some investigations as to the effect of light upon the skin, my attention was drawn to some old reports (Picton,¹ 1830, Black,² 1867) on the favourable results arrived at by the exclusion of light in cases of small-pox. As everything, from a theoretical point of view, was in favour of the correctness of the observations, and as at the same time practical experience proves that the pock-marks are thickest on the face and hands—that is, those parts of the skin which are most exposed to the light, I drew (without having any knowledge of the mediæval treatment) attention in an article in *Hospitalstidende*, July, 1893, to this treatment, but proposed at the same time the use of red light instead of complete darkness—that is to say, the exclusion of the light's chemical rays. Shortly afterwards this modified treatment was tried in Bergen (Norway), where Drs Lindholm and Svendsen³ treated 8 patients in red light. Of these 8, 4 were unvaccinated children, of whom some had confluent small-pox; they were all cured without suppuration, without secondary fever, and without pitting.

These favourable results, and the explanation which I had given at the same time led to the method being tried in various places. Before proceeding to the reports which have appeared on the subject, I purpose giving a short theoretical account of the effect of light upon the skin, which is of course the basis for an understanding of the method.

THE EFFECTS OF LIGHT ON THE SKIN.

It has for a long time been a recognised fact that sunlight can produce an irritation of the skin of a greater or less intensity, from a slight erythematous redness to the formation of vesicles, and desquamation (erythema or eczema solare). It was formerly believed that this was caused by the heat rays, and the erythema was therefore called erythema calori-

¹ On the Exclusion of Light as a Means of Preventing the Pitting in Small-pox; the *American Journal of Medical Science*, 1832, p. 119.

² How to Prevent Pitting of the Face by Small-pox in Persons unprotected by Vaccination. *Lancet*, 1867, vol. 1 p. 792.

³ *Medicinsk Rev.*, October, 1893.