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REPORT OF SMALLPOX IN COOK COUNTY HOSPITAL.

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During my service in the contagious ward of Cook County Hospital as assistant to Dr. Baer, who has allowed me to report the following cases, several cases of smallpox of more than usual interest occurred, which has led me to report not only them but others that passed through my hands.

CASE 1. J. J., age eighteen, in obstetric ward. Last menstruation July, 1893, noticed movements of child in November. Her pregnancy uneventful, no disturbance of her general health.

She stayed at the "Door of Hope" during the latter part of February and the early part of March, and while there a child died of smallpox. She was vaccinated for the first time March 12, and March 18 she was admitted to the hospital. She remained perfectly well until March 25, when she noticed papules distributed over the arm near the vaccination which was successful.

No headache or backache, subjectively well throughout the attack. Transferred to ward 17, March 27. Examination. Patient well nourished, tongue clean. There is a marked prominence of the right lobe of the thyroid gland.

Skin. Around the vaccinal wound the vesicles are clustered in great numbers, there is apparently no intervening healthy skin. Over other portions of the body, the vesicles are scattered singly or in groups of four or five, all of them present umbilication; striae gravidarum marked.

Labor began April 5 at midnight; the pains rapidly increased in severity and number until child was born, April 6 at 4:15 A. M.; placenta followed child in ten minutes; slight laceration occurred which was repaired with one stitch. Contraction of the uterus firm and constant. She made an uneventful recovery.

CASE 2. R. J., the babe of the preceding history, born April 6. Babe cried lustily. The eyes were treated with silver nitrate solution, two per cent, and immediately irrigated with boric acid solution.

No apparent papules before cleansing; although the pharynx was injected no vesicles were seen. Three hours later the babe had been cleaned, and at that time two papules were noticed, one on the left knee, the other on the chest, also a few flat, partly distended vesicles on the skin of the triangle of Simon, child was vaccinated on left arm.

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In a few hours other papules appeared on face and hands, no implication of the mouth. Babe slept for the first fifteen hours and was put to parent's breast at end of eighteen hours, but nursed very little.

April 7. Slight discharge from eyes; no vesicles except those already mentioned; sleeps well; urinations and bowel movements normal. Ichthyol applied to left leg 30 per cent strength.

April 8. Profuse, papular, and vesico papular eruption; quite symmetrical; palms and soles included. Many of the vesicles present slight umbilication; few papules on tongue and roof of mouth; child nurses poorly; bowel movements normal. General condition good; sleeps well; child is oiled, and the oil is evidently irritating; when the ichthyol is applied, causes some pain; cord drying nicely.

April 9. More vesiculation; some pustulation present on palms and soles; has severe hiccoughs.

April 10. Vesiculation has entirely changed to pustulation; child is quiet; nurses poorly. General condition very poor; breathing is weak, shallow and rapid; many fine râles; the pulse compressible; reflexes apparently exaggerated; bowel movements frequent.

April 11. No cough; somewhat weaker; bowel movements often, and yellowish green in color.

April 12. Conjunctiva injected; nursing quietly, when suddenly he became blue; the hands became tightly clenched, followed by death at 1:30 P. M.

Post-mortem examination at 2 P. M., one-half hour after death. Lesions still show umbilication. Pleura and peritoneum negative; pericardium contains a drachm of pale, straw colored fluid.

Heart. Negative, blood has not clotted.

Lungs float, but do not crepitate throughout; surface mottled; pale and dark red. Few solid areas, but these do not sink.

Liver. Many yellow punctate spots on capsule; gall bladder distended.

Kidney. Hyperemic; capsule peals readily. Stomach, no papules. Small intestines negative.

Large intestine. Many small, sharply cut ulcers, penetrating to the outer muscular coat; peritoneal surface negative.

Specimens taken from all the organs and hardened in both alcohol and Mueller's fluid. Sections cut by celloidin method. Stains, hematoxylin and eosin; also eosin and Löffler's blue.

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Liver. Cells highly stained with eosin, indicating necrosis. Around areas of cell death no round cell infiltration, hence no regenerative processes; marked dilatation of capillaries and free hemorrhage in substance; the hemorrhages quite numerous.

Kidney. Extensive necrosis of the convoluted tubules, brought out by eosin and blue; congestion of vessels in capsules; leucocytes in the glomeruli; few red corpuscles between glomerulus and capsule; in boundary zone, enormously distended tubules.

Lungs. Hemorrhage into alveoli and smaller bronchi; also areas of necrosis.

Trachea and esophagus. Engorgement of vessels and blood on free surface of mucous membrane.

Pancreas. Necrosis of secreting cells.

Skin. Section through a papule shows changes usually seen in skin eruptions, with beginning degeneration of the center of the papule.

Intestine. No marked changes microscopically.

Tubes of agar-agar and glycerine agar repeatedly inoculated from pus of pustules from the blood from serum of vesicles, and immediately placed in incubator with absolutely negative results.

CASE 3. C. T., aet. two and one-half years. Entered the hospital March 22, with diagnosis of scarlet fever, no temperature, only some swollen glands in the throat; April 9 presents marked desquamation; April 13 desquamation still in progress; April 16, rapid rise in temperature to 104.2° axilla at 4 P. M., was very restless; vomited; pulse of 160, respirations 40, followed by profuse sweating. April 17, eyes dull, no appetite, a papular eruption distributed over body, arms, legs and genitals; tonsils much swollen.

April 18. Papules more abundant, beginning vesiculation on back; on cheeks and legs, several confluent patches of 5 cm. in diameter.

April 20. Well marked pustulation.

April 23. So profuse is the eruption, there is not a square cm. of healthy skin, mucous membrane of soft palate shows a dozen or more vesicles; urinalysis negative to albumin tests, passes only thirteen ounces daily.

April 24. Some of pustules exude blood, while already there are many crusts.

April 26. Crusts have all disappeared from the face, leaving large flat pigmented papules surrounded with a ring of scales. Some pustules still remain on hands and feet.

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May 12. Complete recovery. This little patient had a perfect vaccinal crust at the onset of the disease.

CASE 4. R. S., aet. sixteen days. Born March 12, vaccinated on the 13th, typical vaccinal vesicle on the 18th, eruption of variola appeared on the 22d, died on the 2d of April.

CASE 5. K. B., aet. 17. She was vaccinated twice successfully, delivered of a child at full term on March 12, at once developed hemorrhagic variola and died March 17.

CASE 6. S. O., aet. 33. Vaccinated at third year of age, was delivered on March 12, vaccinated the 14th, onset of disease on the 16th, again vaccinated on the 17th, well developed eruption on the 18th, few vesicles and pustules, most of the papules dried into what is known as "horn pox." April 10, entirely recovered.

CASE 7. A. F., aet. 28. Chronic interstitial nephritis with attack of varioloid, vaccinated when a baby, again on admission, complete recovery.

CASE 8. F. B., Developed smallpox two weeks after birth and died on the sixth day of the disease with the confluent form.

The first case of hemorrhagic smallpox was diagnosed as hemorrhagic measles, but from the fact that a man in same ward with him, who really had measles, contracted variola, it is safe to say that this was not a case of morbilli hemorrhagica.

CASE 9. J. B., aet. 30, gave typical history of variola but also presented symptoms of measles, the injected conjunctiva and measly rash. The rash, however, was a permanent one. The nostrils also became occluded after very free discharge.

Was never vaccinated and was a drinking man. Died two days after admission.

CASE 10. J. H., aet. 32. History and examination as above, save that when a child he was vaccinated once. Died three days after admission.

CASE 11. H. R., aet. 44. Same as first, but violent delirium present up to death, which occurred four days after admission.

CASE 12. T. O. Headache and severe sore throat; is a heavy drinker; vaccinated when three years old and eight years ago, both times successfully. Examination. Appears on verge of delirium tremens, many umbilicated vesicles on mucous membrane of hard palate. A profuse macular and maculo papular dark red eruption. Patient was transferred to smallpox hospital.

From case ten sections of liver and kidney were made showing areas of necrosis and free hemorrhages.

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Inoculations resulted same as before, negatively.

Of six cases of varioloid two had sore throats. Three had one successful vaccination, two had two, and one had four vaccinations with good results. Two had albuminuria. One of the cases had absolutely no subjective symptoms; could not be persuaded he was a variola patient, although having an undoubted case.

In sixteen cases of variola eleven had sore throat. Ten had one successful vaccination, six had not been vaccinated. Fifteen had albuminuria.

Out of somewhat more than 100 cases seen by me for diagnosis, fully ninety per cent had papules in pharynx and on penis.

Very few cases had chills. Vomiting is frequent. Diarrhea is present in babes and in hemorrhagic cases quite constantly.

The death scene of hemorrhagic smallpox is one ever to be remembered when once seen. The vain struggle for oxygen produces the most violent contortions. The sitting posture is maintained and the patient tears at his throat and tongue, moans piteously in his delirium, until death relieves him from further agony.

At no time was I able to get a culture of any microörganism from the serum, blood or pus.

Prognosis. A very severe sore throat or hemorrhagic eruption makes the outlook very gloomy, while a light sore throat or none at all and scarcity of initial lesions betoken a light attack.

Treatment. Calomel and soda bicarb on admission. The surface of the body kept cool, which prevents desire to scratch and relieves the intense pruritis, also for same purpose Lassar's paste applied, a salicylic acid paste. Tr. nux vomica as general stimulant and for diarrhea bismuth salicylate and enemas of tannic acid solution.

Gargle of peroxide of hydrogen, boric acid or glycerite of tannin.

Nursing. The patient should be given a complete bath daily with an after-sponge of alcohol and carbolic acid solution, which greatly adds to patient's comfort; scrupulous care of the mouth as middle ear disease sometimes follows. Apply masks to face and hands if necessary, especially in children.

The pathological and bacteriological work was carried out in the pathological and bacteriological laboratories at Rush Medical College.

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