

*March 5.* Dr. M. has been giving quinia daily since last visit, with the effect of ameliorating the malarial element. This morning there is decided induration around the lower third of the femur, with contraction of the leg-flexors; three-fourths inch larger than fellow. A brace is applied to overcome the contraction.

*April 6.* Mother calls this morning bringing child in one hand and the brace in the other. She calls to report a cure and return the brace. The child walks well, and has no pain. Examination fails to detect anything save a crackling sensation when passive motion is made at the knee, and this seems due to a dryness of the synovial membrane. No difference in size, no pain of any kind. Fourteen days ago the intermittent fever was broken up, and all the joint signs disappeared with this. Dr. M. writes me recently that to his knowledge no relapse has ever occurred.

It will be seen from a careful study of the cases herein recorded that no one sign or symptom is pathognomonic of hip-disease.

It is difficult to lay down rules by which a diagnosis can always be easily made. I know of no better method than a thorough examination of the patient, testing the functions of the limbs, being at the same time familiar with the normal functions. The history must, of course, be as accurately obtained as possible; and, if a slow insidious beginning can be distinctly traced, then the evidence becomes strong. Frequent observation must be made when there is room for doubt. I believe it well that cases wherein much doubt exists should be treated as hip-disease until the signs are sufficiently clear to make a diagnosis. The child should have the benefit of the doubt.

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#### ARTICLE VIII.

**SYPHILIS OF THE CONJUNCTIVA.** By CHARLES STEDMAN BULL, A.M., M.D.,  
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SYPHILITIC lesions of the conjunctiva, existing independently, and not connected with lesions of the eyelids on the one hand, or of the eyeball on the other, are not common. The connection between the palpebral conjunctiva and the other structures of the eyelids is so intricate, that syphilitic infiltration of the lid, be it circumscribed or diffuse, soon involves the mucous membrane. The same may be said, in a modified sense, of the connection between the ocular conjunctiva and the underlying fibrous capsule of the eyeball.

In syphilitic patients we not unfrequently meet with an obstinate conjunctival inflammation of the catarrhal type, without there being any certainty that the conjunctivitis is caused by the syphilis. This is especially noticeable in some cases of obstinate iritis.

The older authors were very apt to confound syphilitic lesions of the conjunctiva with those of the lids, not recognizing any difference in their

course, or in their place of origin. Even Lawrence, who usually discriminated accurately, is not always clear upon this point. He admits that the mucous lining of the eyelids sometimes participates in the syphilitic eruptions which affect the general cutaneous surface, and is right in believing that this does not happen so often as we might have been led to expect from observing the correspondence in diseased action between the conjunctiva and the skin.

As a matter of clinical experience it may be stated that the syphilitic lesions of the conjunctiva are eruptions, ulcerations, and infiltrations. Under the head of ulceration are to be considered the chancre or initial lesion of syphilis, and secondary ulcers, resulting from the breaking down of infiltrated masses. All modern authorities agree in recognizing the occurrence of the initial lesion upon the conjunctiva, as well as gummy infiltrations and secondary ulceration. Mauthner and Bonchet both speak of the occurrence of soft chancres in the conjunctiva, but it is not quite clear what they mean by the term.

The initial lesion is rarely met with on the eyelids, and is a still rarer occurrence on the conjunctival surface alone. In most of the reported cases the ulcer has been on the margins of the lids, where cutaneous and conjunctival surfaces meet. Cullerier, Mackenzie, Lawrence, Ricord, Fournier, Martin, and others, all speak of chancres in this locality. According to Sturgis, in his report of 1646 tabulated cases of chancre, the ulcer occurred only six times on the eyelid. But in some of the cases reported, the ulcer was purely a conjunctival lesion. Desmarres (*Maladies des Yeux*, ii., p. 213) mentions a case of chancre of the conjunctiva, occurring in a woman, near the inner canthus, and occupying the entire thickness of the upper lid. The ulcer was deep, with sharp edges, its bottom was covered by a gray pulsatious matter, and there was engorgement of the neighbouring lymphatic glands. Seven weeks later appeared a general papular syphilide. The ulcer healed on the sixtieth day.

Mauthner quotes another case of Desmarres, in which, in the middle of the inferior conjunctival cul-de-sac, there was an oval tumour as large as a pea, firmly connected with the mucous membrane, with ulcerated surface, and eroded walls, and enlarged preauricular gland. The diagnosis of chancre was confirmed by Ricord. Mauthner also saw in a girl, in the conjunctiva of the left lower lid, an ovoid, smooth tumour, with ulcerating surface, and irregular edges, but no swelling of the neighbouring glands. A diagnosis was made of the chancre, and the tumour was removed by the knife. It returned in the scar, and was again removed, but the eye was injured. Traumatic choroiditis ensued, caused sympathetic irritation in the other eye, and the eye was consequently enucleated. There were never any constitutional symptoms of disease, and the diagnosis is therefore extremely doubtful.

Galezowski (*Journal d'Ophthalmologie*, 1872) reports a case of primary

chanere of the palpebral conjunctiva. In the upper lid, near the internal canthus, could be seen a swelling as large as a hazelnut, which could be felt through the skin. The lid could not be everted; but by drawing it forcibly away from the eyeball there was seen an ulcerating surface which reached to the cul-de-sac, and suppurated slightly. The sore healed by mercurial treatment, but left behind an extensive symblepharon. It is not stated whether the patient had previously manifested any symptoms of constitutional syphilis, nor whether any appeared at a later period, and it is therefore not certain that this was the initial lesion. The symptoms would answer for a disintegrated gummy infiltration, or for an ulcerating tubercular syphilide.

Sturgis reports still another case of conjunctival chanere in the *American Journal of Medical Sciences*, January, 1873, occurring in a child, æt. 22 months. The lower lid was swollen and inflamed, and on everting it there was seen near the outer canthus a dusky-red papule, which speedily changed into an ulcer, with clean, red granulating surface. It was not indurated at first, and the neighbouring glands were not examined. One month later the child had a febrile attack, during which an eruption appeared upon his abdomen and chest. Sturgis first saw the child two months after the appearance of the lid-swelling, and then the induration was marked. The ulcer was still granulating, and there was a general roseola in the stage of decline, and mucous patches in the mouth. The mode of origin in this case was never discovered.

Bumstead reports a case of initial lesion occurring on the internal surface of the upper lid. (*Treatise on Venereal Diseases*, 3d edit.)

Dietlen mentions a case of chanere of the conjunctiva occurring in the left eye of a physician three or four weeks after he had examined a woman affected with syphilitic condylomata. At the end of six weeks there appeared a general roseola and infiltration of the parotid and submaxillary glands. The lesion was situated in the cul-de-sac, where there was marked induration, and the ulcer slowly healed, leaving a sclerosed cicatrix. (*Thèse d'Erlangen*, 1876. *Révue des Sciences Médicales*, April 15, 1878.)

Galezowski further refers to five cases of indurated chanere, existing on the palpebral edge of the lid, all inoculated upon the mucous membrane, the skin not being involved until later. He does not regard the engorgement of the preauricular and submaxillary glands as pathognomonic of syphilis. On the other hand almost all authorities, and especially Lance-reaux, estimate the importance of this sign as great.

The writer of this paper has during the past year had an opportunity of seeing and treating a chanere of the conjunctiva which tended to extend in an unusual direction.

The patient was a young man, æt. 29, who had never had any symptom of venereal disease according to his own statement, and who showed no physical signs of any preceding lesion upon his body. There was no

history of any contamination, so that the mode of origin of the ulcer is unknown. The lower lid became somewhat inflamed, swollen, and painful about a week before I saw him, and there was some little muco-purulent discharge, which collected along the edges of the lids and on the cilia. On everting the lid, deep in the cul-de-sac, about a quarter of an inch from the external canthus, was an ulcerated surface, covered by a grayish, pultaceous matter, with hard base, the induration extending for some distance on every side. The ulcer was irregularly oval, about half an inch in its longest diameter, and extended upwards into the ocular conjunctiva, which was very much thickened. The whole conjunctiva, both ocular and palpebral, was intensely congested, giving the appearance of an aggravated conjunctivitis. The preauricular gland of the corresponding side was enlarged and tender, and later the same symptoms appeared in the parotid and submaxillary glands. A diagnosis of chancre was made, the ulcer was cauterized, and the patient placed immediately upon anti-syphilitic treatment. The sore pursued the usual course, healed in about three weeks, and the engorgement of the glands gradually subsided. About nine weeks after the occurrence of the ulcer there appeared a roseola upon the face and hands, which soon became general. Some weeks later the patient complained of his mouth, and on examination showed several mucous patches on the buccal mucous membrane, and one on the side of the tongue. Any lingering doubt as to the ulcer having been the initial lesion was now set at rest. The patient subsequently suffered from an attack of monocular iritis.

There seems to be very little doubt that either the ciliary margin of the lids or the cul-de-sac is the part most frequently the seat of the conjunctival chancre. There are some rare cases reported where the lesion was in the ocular conjunctiva at the edge of the cornea, but the references to these cases which I have been able to consult were so slight that the diagnosis needs confirmation. They may have been ulcerated gummy deposits, or even non-specific ulcers.

The secondary lesions of the conjunctiva, those occurring during the period of constitutional infection, are much more frequent than the initial lesion. Lancereaux describes them as small circumscribed spots, elevated, non-vascular, and of a reddish-gray or coppery colour, not differing much from certain eruptions on the skin with which they may coexist. Galezowski affirms broadly that syphilitic affections of the conjunctiva are either chancres or mucous patches. Again, Desmarres says that he has never seen any mucous patches or coppery eruptions on the conjunctiva. But the mucous patch is certainly not the only lesion found at this period in the conjunctiva, for papules and pustules are not rarely seen here, accompanying other signs of constitutional syphilis. Thus, Lawrence (*A Treatise on the Venereal Diseases of the Eye*, London, 1830) reports a case of syphilitic iritis with a general papular eruption, in which there were a few pustules on the mucous membrane of the lids, appearing as small yellow points the size of a large pin's head. In another case of general papular eruption, there were found several yellow pustules in the palpebral conjunctiva, which caused a great deal of "uneasiness and

swelling of the lids." In still another case, where the eruption was tubercular, chiefly affecting the face and tibiae, the upper lid of one eye became swollen; and on everting it, an eruption of small pustules was observed upon the conjunctival surface. In a fourth case, with ulcers in several parts of the body and periosteal nodes, Lawrence observed that the left upper lid was red and swollen, and on everting it he discovered on the inner surface a sore as large as a sixpence, with a tawny surface which did not extend as far as the ciliary margin of the lid.

These sores with tawny surfaces are not very uncommon, and are probably ulcerated mucous patches. I have seen several within a comparatively recent period, and will cite one case in detail as showing how a mucous patch or condyloma on the conjunctiva grows.

The patient was a young man, æt. 22, whom I saw for the first time on October 11th, 1877. The chancre had been contracted about four months previously, and he had sore throat and a general eruption, probably a roseola, before I saw him. At the above-mentioned date, he presented himself with an iritis of the left eye and a general papular eruption. Two days later, he noticed that the upper lid of the left eye was somewhat swollen and tender to the touch. On everting it, there was seen an elevation of the conjunctiva over the centre of the lid, something like a small vesicle, as if there had been an effusion beneath it, and a localized engorgement of the vessels. The next day, this elevation had extended and was more resistant to the touch, as if the effusion were not fluid. The vascular injection was also more marked. The extension continued steadily until, on the sixth day, the signs of a mucous patch were unmistakable. It was oval in shape, somewhat more than half an inch long, its long diameter corresponding with the long diameter of the lid, and it did not reach the ciliary margin of the lid. It had the reddish-gray colour and moist surface which we are all accustomed to see. This surface subsequently ulcerated, became very red and painful; the ulcer extended superficially, and had an offensive discharge. It eventually healed, though for a time it resisted treatment obstinately, and the resulting cicatrix produced a slight entropium of the inner lip of the ciliary margin of the lid.

It is a well-recognized fact that mucous patches ulcerate easily, and it is not improbable that some of the reported cases of soft chancre of the conjunctiva are ulcerated mucous patches. There is such a case published in the *Gazette des Hôpitaux*, No. 11, Jan. 27th, 1866.

A woman, æt. 22, had mucous patches on the vulva and labia majora. The lower lid was red and painful at the external canthus, and the ocular conjunctiva was injected. There was no lachrymation and no secretion of any kind. The ocular conjunctiva became chemotic, and the eye could not be opened, owing to the increased swelling of the lids. Four days later, the swelling had subsided somewhat, and on everting the upper lid there was seen near the canthus an elevation of the mucous membrane of a deep red colour, the size of a small pea, with ulcerated surface. The cornea was healthy, but the ocular conjunctiva was deep red and lay in folds as far as the cul-de-sac. The case was well advanced towards recovery on the fourth day after the treatment began, and its site later could only be recognized by the deep red tinge of the conjunctiva, which remained.

Though ulcerations of the conjunctiva usually occur with other syphilitic

ulcers on different parts of the body, yet, as before observed, they result from the disintegration of gummy infiltration as a rule, and not from mucous patches. Yet, gummy tumours do not always precede syphilitic ulceration. In isolated cases, the process begins with infiltration of a portion of the conjunctiva, but quickly ulcerates and forms a conjunctival ulcer, which, according to Stellwag, is easily distinguished from the surrounding tissue by its fatty-looking coating, irregularly eroded edges, and uneven base. If properly treated, these ulcers generally cicatrize rapidly. According to Hirschler, if the ulcer was on or near the ciliary edge of the lid, the cicatrix itself is very characteristic. It appears as a tendinous white cord, entirely devoid of cilia, sharply defined, which extends through the entire thickness of the edge of the lid, and forms an excavation in consequence of its great shrinkage.

In the *British Medical Journal* for March 18th, 1865, there is a report of the proceedings of the Medical Section of the Manchester Royal Institution for February 1st of the same year, in which an account is given of a syphilitic ulceration of the palpebral conjunctiva, which is of somewhat doubtful origin. The margins of the lids were red and swollen, and on everting the upper lids, two small ulcers were seen on one, and one on the other. Each was slightly excavated, with yellowish base, and about the size of a split pea. They were all three in the palpebral conjunctiva, quite within the ciliary margin and not observable till the lids were entirely everted. In one of the patients there was a yellowish ulcer on the left tonsil, and some serpiginous ulcers on the legs. Mr. Windsor, who reported the cases, regarded them as comparatively rare, and stated that they occurred in cases of the phagedenic form of ulceration. As the ulceration in these cases involved the tarsal cartilage, they probably belonged to the class of disintegrated gummata.

There is another point of interest in these superficial ulcers on the conjunctiva, and that is their isolated occurrence as a symptom of constitutional syphilis. The patient may have been free from all symptoms of disease for several years, when suddenly the conjunctival lesion makes its appearance, runs its course, is healed, and again the patient is free from all symptoms. Thus, Lawrence cites the case of a gentleman who had a large ulcer, with dirty whitish surface, on the conjunctiva of the upper lid of one eye, and who had had no other symptoms of syphilis for three or four years. The writer has himself seen a case of large superficial ulcer of the palpebral conjunctiva in a man who had had no sign of disease for more than two years. The sore healed under mercurial treatment, and no other lesion made its appearance during the observation of the case.

A third variety of conjunctival lesion in constitutional syphilis is the gummy infiltration, circumscribed and diffuse; and this is probably the least common of all. Gumma of the sclera, involving sometimes the

fibrous capsule of the eyeball, is not an uncommon late symptom of syphilis, but gumma of the conjunctiva is certainly rare. Late manifestations of syphilis, occurring in the tertiary period, are rarely limited to the conjunctiva, but usually beginning in other tissues, involve the mucous membrane by contiguity of structure. Under this head must probably be classed the case described by Tavignot (*Bulletin de Thérapeutique*, October, 1846), and referred to in Schmidt's *Jahrbuch*, Band lv., p. 217.

The patient was a man, æt. 44, who had had no sign of syphilis for twenty years. He presented himself with a tumour of the size of a bean upon the right upper lid. This was removed, but fifteen months later there appeared a number of small growths upon the palpebral conjunctiva of the same eye. In addition there were three small new tumours; the largest was on the left upper lid, appeared united with the cartilage, and was covered by a reddish, ulcerated skin; a second, about the same size, and more movable, was on the right upper lid; the skin over it was reddened, and, when the lid was everted, there was seen a small fistula at the site of the tumour, through which a fine probe could be passed for a distance of several millimetres. The third tumour was very small, and appeared at the external angle of the right upper lid. There were small ulcers at various spots in the conjunctiva, particularly near the ciliary margin. The syphilitic nature of the lesions was proved by a clear history of symptoms and the presence of numerous coppery blotches upon the patient. The ulcers and tumours of the lids healed under a course of mercury.

Lawrence (*loc. cit.*) cites an interesting case of inherited syphilis, in which an ulcer appeared on the palpebral conjunctiva, and spread superficially; but the case is not reported with sufficient care to enable us to decide whether the lesion was primarily an ulcer or a gummy infiltration.

The child was a boy, æt. 4, who was born healthy of a syphilitic mother, and the first sign of any trouble appeared when he was three years and four months old. Both eyes became inflamed with great pain and photophobia, but Lawrence does not say whether this was an attack of iritis or of something else. Two months later a general eruption appeared over the whole body, which disappeared under treatment. One month later the eruption broke out again, and the eyes became sore. An examination showed reddened and swollen upper lids in both eyes, and on everting the right upper lid, the mucous membrane was found very much swollen, and a large ulcer, with elevated margin and foul surface, extended the whole length of the lid, but did not reach the ciliary margin. The conjunctiva of the left upper lid was not ulcerated. The results of treatment are not given.

Magni has seen in syphilitic patients, after an iritis, the development of small, discrete tumours in the conjunctiva, varying in size from a pea to a bean, semi-globular in shape, with white summit and red base. Under the microscope they were found to consist of a mass of young cells lying in a granular matrix. He cites a case of what he calls "Kerato-conjunctivitis Gummosa" in the *Giornale d'Oftalmologia*, 1863, which is quoted in the *Annales d'Oculistique*, vol. li., p. 113.

The patient was a woman, æt. 44. Nothing very accurate was known of her previous history, but during the lactation of her second child, syphilitic ulcers appeared, it is not said where; and later cutaneous syphilides and iritis of the right eye. In January, 1863, when Magni saw her, the lids were œdematous; there was photophobia, lachrymation, and violent pain in both eyes. The palpebral conjunctiva was only slightly injected, but on the ocular conjunctiva there were seen semi-globular tumours, varying in size up to a large pea. With the exception of those situated close to the corneal margin, they were freely movable

with the conjunctiva. Other tumours soon formed, and the first grew larger. On the external margin of the cornea there were three small nodules, and the corneal epithelium was cloudy in the vicinity. The aqueous was turbid, there were posterior synechiae, and vision was reduced to recognizing large objects. Some of these nodules were excised and examined microscopically, and showed the usual appearances of gummy infiltration. Under mercurial treatment all the nodules disappeared without ulceration.

Hirschberg speaks of what he calls "conjunctivitis gummosa," and describes three cases. They began as small growths, the size of a pea, which rapidly ulcerated. They had an infiltrated yellow base and eroded margins, and were accompanied by slight diffuse swelling of the conjunctiva. My knowledge of these cases is simply from reference, as I have not been able either to consult the original, or to find out exactly where they are published. The matter is also referred to in A. von Graefe's *Klinische Vortraege*, i.

The rare form of syphilitic conjunctival disease, called by Smee "conjunctival blotch," was probably of the same gummy nature.

Smee's case, reported in the *London Medical Gazette* for December 13, 1844, was a woman who had at first a small ulcer on the edge of the eyelid. She and her husband had suffered from syphilis for several years. There were numerous copper-coloured spots on various parts of the body, and later there appeared in the ocular conjunctiva, just below the cornea, a spot as large as a silver penny, raised above the surrounding surface, its colour coppery, but not opaque, and with no abnormal vascularity. The surrounding conjunctiva was œdematous. Smee regarded this eruption as analogous to purpura, and as distinct from the pustules of the conjunctiva sometimes found associated with a pustular syphilide. The eruption disappeared under the use of potass. iodide.

In *Guy's Hospital Reports* for 1861, p. 109, Mr. France speaks of "syphilitic blotch of the conjunctiva," and reports three cases. He describes it as a circumscribed and well-defined discoloration of the ocular conjunctiva *around the corneal margin*, which, within the affected area, is slightly thickened and raised, but not more vascular than the neighbouring surface. There is no disposition to ulceration, as when the margin of the lid is attacked by syphilis. The duration of the blotch, if not treated, is very protracted.

France's first case was a woman in whom the blotch occupied the entire lower half of the ocular conjunctiva of the right eye. His second case was a man, with a tubercular syphilide on the face, at the angles of the nose, and on the upper lip. On the conjunctiva of the right eye were three blotches, a large one at the nasal side of the cornea, and two smaller ones at the temporal side. The third case was in a boy, æt. 3, with inherited syphilis. Three weeks after birth the child was covered by an eruption, which disappeared after a month's treatment. Soon after a sanguineo-purulent discharge began in both eyes. He recovered from this in about two months, and remained well till eighteen months of age, when the whole body was again covered by an eruption, and then both eyes became affected by a partial and abruptly-defined discoloration and thickening of the conjunctiva around the corneæ.

Wecker's case of gummy tumour of the conjunctiva (*Traité des Maladies des Yeux*, 1867, i., p. 177) in some points resembles Smee's case.

His patient was a woman, æt. 38, in whom the growth was in the conjunctiva of the left eye, between the margin of the cornea and the insertion of the exter-



nal rectus muscle. The surface was ulcerated, and the tumour very painful. An attempt was made to remove it, but for some reason failed, and the pain was increased. When Wecker first saw the case he thought it was an epithelioma, but a careful examination revealed numerous coppery blotches upon the face, and an ulcerated tubercular syphilide upon the arm. Sichel, who also saw the case, called it certainly epithelioma. Under an antisyphilitic treatment the pain soon ceased, the tumour began to grow smaller, and at the end of two months the cure was complete, leaving only a slight cicatricial line along the corneal margin.

In the *Klinische Monatsblätter für Augenheilkunde*, Sept. 1870, Prof. Estlander reports a case of conjunctival gumma very like Wecker's case.

The patient, a young girl, æt. 19, who showed signs of tertiary syphilis, presented herself at the general hospital for treatment. While an inmate, with numerous syphilitic ulcers on various parts of the body, there developed at the external margin of the left cornea a flat and smooth tumour in the conjunctiva, with a horizontal diameter of about five (5 mm.) millimetres, and a vertical diameter of three (3 mm.) millimetres. In the centre of the growth the conjunctiva was gray, with beginning ulceration. This tumour disappeared in a week under mercurial inunction, leaving a deep gray scar. Potass. iodid. proved useless in the treatment.

Still another case of gummy tumour of the ocular conjunctiva is reported by Brière in the *Annales d'Oculistique*, 1874, tome lxxii., p. 105.

The patient, a man, æt. 25, had had the initial lesion four years before. Later came a papulo-tubercular syphilide, which lasted a long time. Then appeared exostoses on the clavicles, ribs, ulnæ, and tibiæ, with osteo-periostitis, so that for two years he had walked with crutches. He had intense cephalalgia, facial palsy, and had become silly from some lesion of the brain or meninges. There was also caries of the turbinated bones and vomer, and of the entire alveolar arch of the left superior maxilla. In August, 1874, there appeared a marked injection of the ocular conjunctiva of the right eye, with photophobia and lachrymation. The cornea and iris were not inflamed, and the media were clear; but on lifting the upper lid, and making the patient look down, there was seen at about (6 mm.) six millimetres from the corneal margin, between the external and superior rectus muscles, a tumour in the conjunctiva of a yellow colour and firm consistence, about the size of a large bean. Under antisyphilitic treatment this conjunctival growth diminished slowly, and after one month there was only seen a slight thickening of the conjunctiva at the point where the tumour had been.

The following case of gummy infiltration of the conjunctiva, with gummata of the sclera, was under my own care, and as the case is of considerable interest from its rarity, the history will be given in detail. The combination of constitutional syphilis with a certain group of symptoms that somewhat resembled scurvy, the general marasmus which subsequently set in, and finally the death from pneumonia, made a complicated case that was interesting to follow.

Louis B., æt 56, native of Canada, and by occupation a labourer, was admitted to Charity Hospital, Blackwell's Island, August 11, 1877. The patient is a tall, robust man, but prematurely aged in appearance.

*Precious History.*—Had always been a healthy man until the autumn of 1876, when he caught a severe cold, and was admitted to the hospital for simple bronchitis. At the end of ten days he was discharged cured, not having been confined to his bed for a single day. Remained well till the following summer, when he again caught cold and was readmitted to the hospital on August 11th. He had a dry cough, pain in the chest on

both sides running through to the back, an elevated temperature and accelerated pulse, with all the physical signs denoting acute pleurisy, with slight effusion on both sides.

Fifteen years ago he had had two attacks of gonorrhoea, with an interval of about six months between them. He positively denied ever having suffered from any symptom of syphilitic disease.

He was admitted to the ophthalmic ward of the hospital on August 16, 1877. He stated that two or three days before he had felt a sensation of soreness in the left eye, and on the following day in the right eye. The pain became dull, burning, and continuous, was located in the eye-balls, and was accompanied by lachrymation. Whenever he swallowed, whether fluids or solids, he felt a very severe pain in the eyes, and this was immediately followed by marked blepharospasm.

Nothing particular about the man's general appearance, except a pale, dull-yellow complexion and a look of hopeless wretchedness. An examination of the abdomen and back revealed the marks of an extensive old eruption, consisting of small white cicatrices with deep brown pigmented margins, irregularly arranged. These have been there for twenty years. Upon the hands and face there was a peculiar eruption, composed of elevated spots with flat tops, some round, others oval, yellowish-red in colour, with a narrow dark-red areola; neither painful nor tender to the touch, and presenting a mid-state between vesiculation and pustulation. On opening these, a thin, watery pus mixed with blood could be pressed out. These vesicles or pustules were scarcely large enough to be called bullæ, and yet there was conveyed to the mind a general idea of pemphigus. One of the largest pustules was on the left upper lid, and there were two smaller ones along its ciliary margin. There were several on the face, and the remains of a large one on the bridge and right side of the nose. On the hands the eruption was almost entirely on the dorsal surface, and was grouped around the knuckles and between the fingers. Some vesicles on being opened gave exit only to blood.

The eyes were almost identical in appearance. Surrounding the cornea there was a growth, most marked on the outer and lower sides, varying in height from one and a half to two lines, seated in and beneath the ocular conjunctiva. This growth extended away from the cornea on all sides about one-third of an inch, was pale yellow in colour, moderately hard to the touch, with an irregular, knobby surface and apparently destitute of vessels. The conjunctiva was firmly adherent to this growth, and the cornea was imbedded in this wall like a watch-crystal in its frame. On being incised, it cut like brawn and the hemorrhage was very slight. Upon the sclera of each eye, between the tendons of the superior rectus and external rectus muscles, and partially covering the latter, was an extensive and extremely well-marked gummy infiltration of the sclera, very vascular, very tender to the touch, and especially painful when the eyes were turned outwards. This infiltration extended backwards symmetrically in the two eyes, but was somewhat more extensive in the right eye. The media were clear, and an ophthalmoscopic examination revealed nothing abnormal in the deeper tunics of the eyes. The patient's breath was fetid, the buccal mucous membrane very pale, and bore the marks of the teeth along the cheek. Tongue moist and thinly coated, appetite poor, bowels obstinately constipated. Temperature  $100\frac{1}{4}$ , pulse 102, intellect dull, answered questions very slowly. Physical signs of pneumonia well marked over both lungs.

A diagnosis was made of syphilitic pemphigus, gummy tumour of the sclera of both eyes, and pericorneal gummy infiltration of the conjunctiva, and double pleuro-pneumonia. The patient's condition was very bad, and a vigorous tonic and restorative treatment, combined with mercurial inunction and potass. iodide, was at once instituted. Quinia, dilute sulphuric acid, and iron were regularly administered. Potass. iodid. grs. xx ter die, and the inunction night and morning, and a liberal diet of milk, eggs, beef-tea, and eight ounces of whiskey daily.

The patient grew slowly worse, with occasional delirium, and in the intervals of delirium the stupor steadily deepening. Potass. iodidi grs. xxx three times daily. Diminution of conjunctival infiltration.

*August 26.* Integument dusky, breath very fetid, gums spongy and bleeding. Urine is turbid, sp. gr. 1015, contains a trace of albumen, some pus corpuscles, and a large number of triple phosphate crystals. Spots on the hands are growing larger, and approaching bullæ in appearance. Skin very dry and hot. A swelling has made its appearance over the inner condyle of the right arm, painful on pressure. This swelling soon extended down the right forearm, pitted on pressure, and was doughy to the touch; the right hand œdematous, also both legs and feet.

*27th.* Painful diarrhœa, attended by tenesmus, rumbling and bloody discharges; face puffy, repeated bleeding from the gums and nose. Patient is semi-comatose. Consolidation detected at apices of both lungs, with some friction sounds on the left side. *The scleral growths and the pericorneal conjunctival growths have almost entirely disappeared.* The spots on the hands and face are increasing in size, and becoming more red in colour.

*29th.* Diarrhœa ceased; mercury discontinued; transferred to pavilion on account of delirium. Right cheek swollen, especially near angle of mouth, and spots of ulceration on buccal surface opposite first molar tooth in upper jaw; right forearm swollen, red, hot, and tense.

*31st.* Right cheek swollen enormously; eruption decidedly hemorrhagic.

*Sept. 3.* Incisions in right forearm necessary to relieve tension; considerable pus discharged through the incisions; patient much relieved. Swelling of right cheek still more marked, and at one point on mucous surface a somewhat extensive black slough. *Eyes entirely well.*

*6th.* Constant delirium; slough in cheek extending; eruption drying up; arm doing very well; scarcely any febrile action.

*16th.* Large hole sloughed through the entire thickness of the cheek; delirium has turned to coma; steady improvement in the arm.

*19th.* Death at 4 P. M. in deep coma.

*Autopsy, 20½ hours after death.*—Body emaciated; on back of hands a number of bluish-red spots, varying in size from a three-cent piece to a dime. Beneath the right malar bone a round, clean-cut ulceration of all the tissues of the cheek, which extends to the angle of the mouth, but does not involve it. All the tissues involved in the ulceration form a soft, pulpy, brownish-red, offensive mass. Right half of tongue destroyed by ulceration; right half of inferior maxilla, from symphysis to angle, is denuded of periosteum and base, and same condition exists in the right superior maxilla.

*Calvarium* unusually thin; dura mater normal; increased amount of cerebro-spinal fluid; pia mater œdematous; sinuses empty; vessels at base of brain normal. At posterior portion of right hemisphere is a spot of softening about an inch in diameter, breaking down immediately on section.

*Thoracic cavity* contains about ten ounces of clear serous effusion; on right side a few bands of adhesion at apex; on left side a few bands of adhesion at base to diaphragm; upper lobe, central portion of middle lobe, and greater portion of lower lobe of *right lung* in stage of gray hepatization, associated with emphysema. In *left lung* entire lower lobe the seat of catarrhal pneumonia passing into gray stage; upper lobe emphysematous and œdematous.

*Heart*.—Both ventricles hypertrophied and dilated; on leaflets of aortic valves are soft vegetations; in pericardial cavity about half an ounce of clear serous effusion.

*Abdomen*.—Liver fatty; capsule of spleen thickened, and its parenchyma almost diffuent; in cortex of kidneys several small abscesses, size of a split pea; in both pyramidal and cortical portions are evidences of chronic interstitial nephritis. Pelves and ureters contain a small amount of pus.

Intestines are normal, except a few chronic ulcerations in the cæcum.

Situated in the median line of the neck, below and between the lateral lobes of the thyroid gland, is a tumour the size of an English walnut, just beneath the subcutaneous fascia; it is soft and fluctuating, and on section was found filled with disintegrated coagula. On the internal surface of its walls were a few calcareous plates. Pharynx and trachea normal.

The points of interest in the case are as follows:—

1st. The rarity of the pericorneal, conjunctival growth.

2d. Its coincidence with and yet independence of the gummy infiltration of the sclera.

3d. The cyst in the neck, with its disintegrated contents, unrecognised before death.

4th. The vesiculo-pustular eruption becoming pemphigoid and subsequently hemorrhagic.

5th. The hemorrhagic diathesis as shown in the various symptoms.

Of course, gummy infiltration of the sclera and episcleral tissue is a common enough manifestation of constitutional syphilis, and the scleral gummata in this case occupied the usual site; that is, in the neighbourhood of the external rectus muscle. Though the infiltration was extensive, this is not uncommon, and it extended in the usual direction from before backwards, towards and beyond the equator of the eyeball. Furthermore it was binocular and symmetrical, as is usually the case in syphilitic lesions of the eye. As regards the conjunctival gummata in this case, no ulceration occurred. Their appearance at first, and their mode of growth, resembled very much the description given by Smee of his case. They began as a dirty discoloration in small patches in the conjunctiva around the cornea, with at first scarcely any elevation. These patches then coalesced, gained in thickness and breadth, and thus formed the wall round the cornea. They then remained unchanged until the system came under the influence of the mercury, and then, in spite of the patient's generally depraved physical condition, they rapidly subsided and disappeared before the scleral infiltration was absorbed.

The conjunctiva and sclera were normal in appearance between this

circum-corneal wall and the gummy tumour of the sclera near the external rectus muscle. There was no increased vascularity of the eyeball, except in the immediate neighbourhood of the latter, and the absence of any continuity of abnormal growth between the two masses of infiltration was very clearly marked. The symmetrical arrangement of the double infiltration in the two eyes, and what might be called their symmetrical independence, was of considerable interest.

A third point of interest was the cyst in front of the trachea, the existence of which had not been recognized before death. This cyst had no connection with the thyroid body or trachea, and had probably existed for some time, perhaps years, if we may judge from the presence of the calcareous plates upon the inner surface of its walls. The exact pathology of the cyst it is very difficult to determine. There were no signs of interference in the functions of either trachea or œsophagus during life, so that its rate of growth is unknown. In view of the constitutional syphilis, its origin had been probably a gummy deposit in the subcutaneous tissue of the neck, just below the isthmus of the thyroid and in front of the trachea, which had subsequently undergone retrograde metamorphosis. Its contents found at the autopsy were regarded as disintegrated clots, but the presence of the blood may be accounted for by the marked hemorrhagic diathesis. The wall of the cyst varied from three to five lines in thickness; its inner surface was smooth, as if covered by a membrane, except where the calcareous plates were situated, and the outer surface rough, owing to adhesions to the surrounding tissues. Microscopic sections showed that there was no distinct lining membrane, nor any trace of epithelium, and the smooth appearance of the inner surface was probably the result of pressure of the contents. The wall was composed of a large number of layers of fibro-areolar tissue, with some cells, fusiform and round, with nucleus and granular contents. These layers of fibres were packed very closely together, forming a dense strong wall, which had probably originated in the following way: A gummy deposit had occurred in the subcutaneous areolar tissue, which, by its presence, had set up a localized inflammation, lymph was poured out around the gumma, became organized, and thus the growth went on. At some subsequent period the contents of the tumour began to break down, disintegrated and perhaps suppurated, and at this stage the hemorrhage may have occurred, and mingled with the contents. As the process of absorption went on, these bloody extravasations probably recurred again and again, and thus the cyst wall had no opportunity of collapsing, and hence no obliteration of the cavity occurred.

The accompanying eruption was another interesting feature in the case. Its ill-defined, nondescript character was at first unsatisfactory. The spots were as often pustules as vesicles, and even when more truly vesicular the surrounding areola was different from that usually seen in this variety of

eruption. Only in a few of the spots was the areola at all well marked, and the vesicles were not large enough to speak of them as bullæ until towards the close of life. The ill-defined character of the eruption was no doubt the sign of a lack of development, due to the extremely low, marasmic state of the man's system. As a rule patients with pemphigus die of marasmus, and very often from pulmonary tubercles or pneumonia. In many cases we also find at the autopsy amyloid degeneration of the liver, spleen, and kidneys, with chronic interstitial desquamative nephritis. The locality of the eruption was also somewhat singular. According to authorities, the favorite place for pemphigus is on the palm of the hand and sole of the foot, on the scalp and brow. But in this case the eruption was on the face below the forehead, and on the dorsum of the hands and fingers. The scars on the back and abdomen might point to either a papular or tubercular eruption. As a rule scars do not give any absolutely characteristic sign by which to recognize the preceding destructive process, though we are sometimes assisted by them in coming to a conclusion as to the nature of the lesion.

The final point of interest was the hemorrhagic diathesis, as shown by the tendency to bleed from mucous and cutaneous surfaces on slight provocation, and towards the end spontaneously. This was marked from the beginning. The buccal mucous membrane and tongue were pale and almost bloodless, and the patient had frequently had epistaxis. Subsequently his gums became spongy and bled easily; attacks of epistaxis occurred; a bloody diarrhœa made its appearance, and was with difficulty controlled, recurring again and again towards the end. The eruption became hemorrhagic, and even at first the contents of the vesicles or pustules was in part blood. As the vesicles became bullæ, the hemorrhagic tendency was still more clearly developed.

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#### ARTICLE IX.

CAUSE AND PREVENTION OF SQUINT. By H. S. SCHELL, M.D., Surgeon to Wills [Ophthalmic] Hospital, and Ophthalmic Surgeon to St. Mary's Hospital, Philadelphia.

THE operation for convergent strabismus has, as far as its final results are concerned, never been absolutely satisfactory. There are several circumstances which may justify this reservation, either from a cosmetic or a physiological point of view. In the first place it is not always easy to obtain a perfect parallelism of the optic axes; the tendency being to do either too much or too little in the way of tenotomy. If, however, the