

Parotitis after injury or disease of the abdomen or pelvis / by Stephen Paget.

Contributors

Paget, Stephen, 1855-1926.
Royal College of Surgeons of England

Publication/Creation

London : Printed by the British Medical Association, 1887.

Persistent URL

<https://wellcomecollection.org/works/rhjwt99y3>

Provider

Royal College of Surgeons

License and attribution

This material has been provided by This material has been provided by The Royal College of Surgeons of England. The original may be consulted at The Royal College of Surgeons of England. where the originals may be consulted. This work has been identified as being free of known restrictions under copyright law, including all related and neighbouring rights and is being made available under the Creative Commons, Public Domain Mark.

You can copy, modify, distribute and perform the work, even for commercial purposes, without asking permission.

PROCESSES OF THE PULMONES
BY JOHN H. WATSON, M.D.
1891 W2745A0720

Revised for the Author from the

PAROTITIS AFTER INFLUENZA AND OTHER DISEASES

By STEPHEN J. WATSON, M.D.
Assistant Surgeon

James Curran's Clinical Lectures
between the Diseases of Various
"that some organs, when he
into other organs, giving rise
are developed sometimes acute
and in women. It is of the
in this morbid state, and so
we to have a distinct course
meaning. Curran gives four cases
lice, and this again by writ-
disease of the spleen was follow-
-a sequela noted long ago by
mind such symptoms as those,
"under the appearance and fe-
with conditions."

But, apart from their clinical
have great pathological interest
even direct organs which are
disease of the kidney and albumin
in pyemia due to acute necrosis
I have collected and arranged
I find that in 15 cases of pyemia
of the heart and I had embolism
of the kidney. On the other
necrosis, only I had chronic
slight change in it, and not one
to any in pyemia. Some acute
disease of the kidney such occur
pyemia also necrosis; they are
often than this.

¹ Read before the M.



20.

PAROTITIS AFTER INJURY OR DISEASE OF THE ABDOMEN OR PELVIS.¹

By STEPHEN PAGET, M.A., F.R.C.S.,
Assistant Surgeon to the Metropolitan Free Hospital.

AMONG Graves's Clinical Lectures, there is one on the "Connection between the Diseases of Various Organs." "You are aware," he says, "that some organs, when labouring under disease, are apt to implicate other organs, giving rise to various deranged conditions, which are developed sometimes simultaneously, but in general consecutively, and in sequence. It is of the greatest importance to study each link in this morbid chain, and to ascertain the nature of its connection, so as to have a distinct conception of the whole." To illustrate his meaning, Graves gives four cases of acute arthritis, followed by jaundice, and this again by urticaria; and three cases where chronic disease of the spleen was followed by superficial ulceration of the legs—a sequence noted long ago by Aretæus. He adds that, if we bear in mind such sequences as these, we may, as he himself did in two cases, "predict the appearance and form of disease, and inspire the patient with confidence."

But, apart from their clinical interest, these sequences in disease have great pathological interest; for they demonstrate relations between distant organs which are not visible in health. For example, abscess of the kidney and abscess of the heart are much more common in pyæmia due to acute necrosis than in pyæmia due to amputation. I have collected and arranged some hundreds of cases of pyæmia, and I find that in 18 cases of pyæmia from acute necrosis, 10 had abscess of the heart and 1 had endocarditis, and 11 had abscess or infarction of the kidney. On the other hand, in 140 cases of pyæmia from amputation, only 1 had abscess of the heart, and a few others had slight changes in it, and not one had abscess of the kidney. That is to say, in pyæmia from acute necrosis, abscess of the heart and abscess of the kidney each occur in 61 per cent. of the cases; but in pyæmia after amputation they occur only in 1 per cent., or even less often than this.

¹ Read before the Medical Society of London

To take another example : abscess of the liver and of the spleen is much more common in those cases of pyæmia where the primary lesion has involved the medulla of bone, than in those where it has involved only the soft parts. Thus, out of 67 cases of pyæmia after injury of the soft parts only, abscess of the liver occurred in 4 cases, and abscess of the spleen in 3. On the other hand, in 217 cases of pyæmia after injury involving the medulla of bone, abscess of the liver occurred in 56 cases, and abscess of the spleen in 28. That is to say, in pyæmia from injury of the soft parts only, abscess of the liver and abscess of the spleen occur in 6 per cent. and in $4\frac{1}{2}$ per cent. of the cases ; but in pyæmia from injury involving the medulla of bone they occur in 26 per cent. and in 13 per cent. of the cases.

In this way, disease may disclose relations between organs which are latent in health. Physiology is of no help towards discovering them ; we know of nothing that corresponds to them in the healthy body.

There is a great deal to be made out in these matters, and I hope to be able to make a regular study of these morbid sequences, not only in pyæmia, but in other diseases as well ; and I shall be truly grateful to anyone who will advise or help me in any way.

To-night I have the honour of calling the attention of this Society to a sequence of great interest—the inflammation of the parotid gland which follows injury or disease of the abdomen or pelvis. Of this form of parotitis I have collected 101 cases. Of these 101, 10 were due to injury or disease of the urinary tract, 18 were due to injury or disease of the alimentary canal, and 23 were due to injury or disease of the abdominal wall, the peritoneum, or the pelvic cellular tissue. The remaining 50 were due to injury or disease or temporary derangement of the generative organs. By "temporary derangement," I mean slight injuries or natural processes—a slight blow on the testicle, the introduction of a pessary, menstruation, and pregnancy.

It is true that parotitis may follow injury or disease of other parts of the body besides the abdomen and pelvis ; but, after a long search, I have found only 13 cases of this kind. Moreover, in every one of these 13 cases, the parotitis was only part of a true general pyæmia, with other secondary abscesses and effusions like itself.

Again, parotitis may occur in the course of one of the specific fevers, generally toward the end of the disease ; thus, of 2,000 typhoid patients in the London Fever Hospital during the years 1870-1885, 13 had parotitis. But out of 7,000 scarlet fever patients in the hospital during the same period, only one had it. Perhaps, so far as the occurrence of parotitis is concerned, typhoid may be regarded as a disease of the abdomen.

Again, the parotitis of mumps, with its so-called metastases, chiefly to the generative organs, has many points of resemblance to the parotitis which is the subject of my paper.

But this parotitis which follows injury or disease of the abdomen or pelvis, though it is in some ways allied to those forms of parotitis which I have mentioned, is in other ways different from all of them. I am anxious to collect many more cases of it, and I shall be very grateful for any help.

This form of parotitis after abdominal or pelvic injury or disease is not, as a rule, accompanied by signs of septicæmia or pyæmia. Thus, out of 101 cases, there are only 15 where mention is made of "septic symptoms," or "septicæmia," or "pyæmia." Even if we add to these 15 cases as many more where septicæmia or pyæmia may have been present, though nothing was said about them, there still remain many cases where there was not any trace of septicæmia or pyæmia. There are also a few cases which are directly contrary to any such explanation of this form of parotitis.

Out of all the 101 cases, there are only 7 in which it is recorded

that other secondary lesions, such as abscesses in the lungs or kidneys, were present. And, among these 7, there is not, so far as I can find, a single case where the pyæmia attacked any of the joints. That is to say, parotitis, when it follows injury or disease of the abdomen or pelvis, is in 93 per cent. of the cases a solitary event, unaccompanied by any other lesion like itself. We have seen that parotitis after injury or disease of other parts of the body is never isolated in this way, but is always part and parcel of a true general pyæmia, with abscesses and effusions into the joints. This isolation of the parotitis which follows abdominal or pelvic injury or disease suggests that it cannot, at least in most cases, be due to any ordinary form of pyæmia.

Out of the 101 cases, 37 died. But, out of these 37 who died, 3 were over 80 years old, 3 had internal cancer, 2 had perforation of the bowel, 2 had strangulated hernia, 7 had undergone severe or even very severe operations, involving abdominal section, and 13 died of septicæmia or pyæmia. If we add to these deaths 1 from infantile syphilis, 1 from marasmus, and 1 from heart-disease, we shall see that these 37 patients died, not from their parotitis, but from the primary lesion, or from some form of blood-poisoning after it. Thus it is not possible to say how far this form of parotitis is in itself dangerous; the danger lies not in it, but in the primary lesion.

This form of parotitis does not appear to have any settled period of incubation. Thus, out of 27 cases where it followed ovariectomy or oöphorectomy, the date of its invasion is given in 18 cases. In 3 of these it occurred on the third day after the operation, in 3 on the fourth, 4 on the sixth, 2 on the seventh, 1 on the eighth, 2 on the ninth, 3 on the eleventh, and 1 on the twelfth.

Out of 12 cases where it followed gastrostomy, herniotomy, and similar operations, the date of its invasion is given in 7 cases. In 1 it occurred on the third day after the operation, in 2 on the sixth, 1 on the seventh, 1 on the ninth, and 2 on the tenth.

Out of 8 cases where it followed delivery or abortion, the date of its invasion is given in 7 cases. In 1 it occurred on the fifth day, in 1 on the eighth, 1 on the ninth, 2 on the twelfth, 1 on the thirteenth, and 1 on the nineteenth.

To these cases may be added one where it occurred on the very next day after a man had been sounded for stone; and one case, most perplexing of all, where it occurred on the morning of the day fixed for operation.

Whatever may be the explanation of this last case, it is clear that this form of parotitis has no fixed period of incubation. It would only be misleading to say that it occurs, *on an average*, on the seventh day after ovariectomy, or on the tenth day after parturition. But it is worth observing that, when it occurs after parturition, it comes later, as a rule, than when it follows any form of operative interference with the generative organs.

The onset of this form of parotitis varies much, as regards the general health. As a rule, there is no marked disturbance of it, no rigors, no high fever. Thus, in most of the cases of parotitis after ovariectomy, where any rise of temperature is mentioned, it is expressly said to be "slight" or "not marked." In some, indeed, there seems to have been none at first; though naturally there is some feverishness during the course of the inflammation. However, this is not, as a rule, severe; so that when a German surgeon says that he treated a case of parotitis, which followed an operation for fæcal fistula, with parenchymatous injections of carbolic acid, and in this way kept down the patient's temperature from rising above 101°, we may fairly decline to agree with him. On the other hand, in some cases the onset of the parotitis was marked by great disturbance of the general health, with high fever. In four cases rigors are recorded, and only in four. Of

these, two were old men, aged 80 and 85, with urinary diseases; and two were women who died of pyæmia after complicated labours. In a case of parotitis after pelvic hæmatocele, there was "high fever, with great prostration;" and in two cases of parotitis after peritonitis the inflammation attacked both glands, and there was "high fever, with delirium," though it is especially noted there were no signs of pyæmia. In a case of parotitis after herniotomy, there was great restlessness, with refusal of food, for two days before the parotid swelled, and violent delirium at the time of its swelling. And in two cases of parotitis after child-birth, there was also puerperal mania. But, in the majority of cases, this form of parotitis comes on without any serious derangement of the system. It is of such cases that Dr. Macdonald speaks, in an account of two cases of parotitis after ovariectomy. "In neither of these cases," he says, "was there temperature or other symptoms to lend the least colour to the opinion that the parotid inflammation was septic. It merely complicated the convalescence a little by the pain and concomitant slight degree of fever it induced." In the same way, Dr. Goodell, of Philadelphia, says of a similar case: "Convalescence was retarded by great and painful swelling of both parotid glands, without any marked rise in the temperature, without acceleration of pulse, and without suppuration. There was not present the slightest evidence of septicæmia." And it would be easy to quote many other similar observations. Moreover, there are several cases in which—if I may use an old phrase—the parotitis is critical, not symptomatic; cases where it occurs toward the end of the primary lesion, disappears in a few days, and is at once followed by rapid recovery.

It does not seem to attack one gland more than the other. It sometimes attacks both; thus, out of 25 cases of parotitis after ovariectomy, both glands were attacked in 9 of them; while, in 3 of these 25 cases, the submaxillary and sublingual glands of the same side as the parotid suffered as well as the parotid, or instead of it. This double form of parotitis, and this implication of the submaxillary and sublingual glands, seem to me to be more common after ovariectomy than after other abdominal or pelvic lesions. The sweating of the skin over the parotid, which is not uncommon in cases of salivary fistula or stricture or obstruction of the duct, does not seem ever to occur in the cases which we are now considering.

As regards the termination of this parotitis, whether by resolution or by suppuration, the figures are as follows: Out of 78 cases, which give information on this point, 45 supplicated, and 33 were resolved without suppuration. And now comes a curious fact: out of the 45 that supplicated, 24 died; but out of the 33 which were resolved without suppuration, only one died, and she died of cancer. But the suppuration of the parotid was not the cause of death in the 24 who died; they died of the primary injury or disease, as I have said, some being over 80 years old, others being the victims of malignant disease, or perforation of the bowel, or acute peritonitis, or septicæmia, or pyæmia. If the expression may be allowed, they did not die because their parotitis went on to suppuration, but their parotitis went on to suppuration because they were going to die.

As regards the fact that, in those who had septicæmia or pyæmia, the parotitis always went on to suppuration, such cases are perhaps parallel to those cases of pyæmia after compound fracture, where suppuration has occurred around simple fractures which had been inflicted at the same time as the compound fracture. Experimentally, the same thing has been shown by Chauveau, Loeffler, and others, who produced simple fractures in animals, then introduced septic fluid into their veins, and thus produced suppuration round the simple fractures.

The pus generally breaks its way into the meatus, or into the

mouth; and it may do this in spite of being let out by a timely incision. It may also burrow backward over the mastoid process, or down the neck, making counter-openings necessary. Belladonna and poultices give relief; but the old rule is universally observed, "Parotitides omnes ante maturitatem aperiendæ," and very great relief is given, even if no pus is found.

Through the kindness of Mr. K. Thornton, I made a *post-mortem* examination in the case of a woman, who died with parotitis ten days after the removal of a large sarcomatous growth from the mesentery. The operation was one of great severity, and she never thoroughly rallied from it. The parotitis set in three days before death, without any violent inflammation.

Post-mortem examination, seven hours after death. No rigidity of limbs or of neck; but the jaws were firmly clenched, and could not be opened. Abdomen flat; operation wound healed. In the left parotid region a firm non-fluctuating enlargement; the œdema, which existed during life, had disappeared. The mucous membrane of the mouth was soft, clean, and free from sordes or ulceration. Pus welled freely from the mouth of the duct, when pressure was made over the gland; there were one or two minute points of hæmorrhage under the mucous membrane at the mouth of the duct. A bristle passed freely up it. The loose areolar tissue over the gland and in the anterior triangle of the neck was œdematous; the lymphatic glands at the angle of the jaw and in the neck were enlarged and soft. The parotid, on section, was found evenly and in every part infiltrated, not with pus, but with reddish, slightly turbid fluid, so that it looked not unlike a section of spleen. There was no abscess anywhere; but just in the proximal end of the duct, where it leaves the gland, lay two or three drops of healthy pus, and a tiny calculus, not bigger than a millet-seed. The microscope showed the lymph-spaces round the acini invaded by masses of small round cells; the acini themselves were separated, confused, and breaking up; and here and there were seen ducts filled with the same small round cells as were infiltrated among the acini. The interlobular septa of fibrous tissue were for the most part unaltered, and free from cell-proliferation; it was a true inflammation of the secreting elements themselves.

With regard to the presence of micro-organisms in this form of parotitis, Rosenbach had a case of parotitis after the operation for strangulated hernia. The man died of "acute septic peritonitis," and Rosenbach made cultivations both from the blood of the arm and from the purulent fluid infiltrating the parotid. The cultivation made from the blood remained sterile, but from the parotid he got large numbers of colonies of staphylococcus pyogenes aureus. This, however, is the commonest of all the micro-organisms found in acute suppurations, and has no specific value.

Finally, I venture to suggest a view of this form of parotitis which seems to me in accordance with the evidence. We have seen that this form of parotitis, which follows injury or disease of the abdomen or pelvis, is in many ways a peculiar lesion. So far from being due to pyæmia, it was, in 93 cases out of 101, an isolated lesion, unaccompanied by any other inflammation like itself. So far from being developed at a regular interval after the infliction of the primary injury, we have seen that it has no fixed period of incubation, and runs no regular course. Its invasion is not marked as a rule, by rigors or by any great rise of temperature; indeed, it seems in many cases to be what old writers called a "critical" inflammation. It may subside, and swell up, and subside again; or may recur with each successive pregnancy or menstruation. Out of 33 cases, where it was resolved without suppuration, only one died; and that was a woman with cancer of the sigmoid flexure, who died of the local disease a month after colotomy.

These facts make it impossible for us to say that this form of parotitis is due to any ordinary form of septicæmia or pyæmia.

Next, it is not due to inflammation extending from a parched and sordid mouth up the parotid duct into the substance of the gland. Many of the cases cannot possibly be brought under this theory. Again, the socia parotidis, which lies so near the mouth, was only affected once or twice in all the 101 cases. Again, the mouths of patients with abdominal or pelvic lesions are not, as a rule, more parched than the mouths of other patients. This theory could explain only a few of the cases; nor is it supported by any real evidence.

Nor is it due merely to inflammation of the lymphatic tissue which is in the substance of the gland. Even if this tissue were inflamed early, or before the rest of the gland, the clinical features of these cases prevent us from classing them as mere swellings of lymphatic glands.

Admitting that the general condition of the patient, especially in cases of septicæmia and pyæmia, is concerned in the production of this form of parotitis, must we not also take into consideration the reflex action of the nervous system? The influence, both direct and reflex, of the nervous system upon the salivary glands is shown in countless ways, both in health and in disease. Thus, if a loop of intestine be drawn out from the abdomen of a dog, the action of the gustatory nerve is inhibited, and the secretion of saliva is diminished or arrested, until the loop of intestine is put back.

Now, if we find one and the same lesion followed by salivation in one patient, by arrest of the salivary secretion in another, and by swelling of the salivary glands in a third, must we not conclude that these results are only different workings of the same agent?

For example, gastritis may be followed either by salivation, or by arrest of saliva, or by parotitis. So, too, parotitis may follow gastric ulcer, gastrostomy (2 cases), duodenal ulcer, enterostomy (3 cases), hepatic abscess, removal of umbilical or abdominal tumours (4 cases), operation for strangulated hernia (6 cases), perityphlitis (5 cases), cancer of the liver or intestine (2 cases), colotomy, penetrating wound of the abdomen, and acute peritonitis (8 cases). It has also followed division of stricture of the rectum, and operation for hæmorrhoids; and with these two last cases may be compared the fact that salivation has been observed as an early symptom of cancer of the rectum.

To take another example. Derangement of the generative organs, like derangement of the alimentary canal, may cause either salivation, or absence of saliva, or swelling of the salivary glands. The salivation of pregnant women, and their longings for sapid food, are well known. Dr. Goodell gives two cases—one of repeated salivation at each menstrual period; the other of a lady with a painful left ovary, in whom the left parotid did not secrete during her menstrual periods, so that that side of her mouth remained dry and painful. Must not parotitis, under similar circumstances, have a similar cause? Parotitis has followed various slight injuries, or temporary derangements of the generative organs, in 5 cases; it has been known to accompany each successive pregnancy, to replace or accompany the menstrual flow (2 cases), and to occur after the menopause (2 cases). It has followed delivery or abortion in 8 cases, pelvic cellulitis or pelvic hæmatocele in 3, operations on the vagina or uterus in 8, and ovariectomy or oöphorectomy in 27.

As regards parotitis after injury or disease of the urinary passages, it has followed the use of the catheter (3 cases); the use of the sound, renal abscess, and chronic cystitis (5 cases).

It is certain that, in many of these cases, there was neither septicæmia nor pyæmia, nor anything of the kind. Must we not, there-

fore, assume, in some of them, the influence of the nervous system as at least part cause?

This influence of the nervous system is the more probable, if we consider how often retention or suppression of urine follows abdominal or pelvic operations; here the influence of the nervous system cannot be doubted. Again, attention has lately been drawn to the fact that in many cases of disease of the thoracic or abdominal viscera, there is inequality of the pupils; they differ not only in size, but also in their susceptibility to light; and this difference between them may change as the disease goes on. This inequality of pupils is, it is said, most often found in those diseases which not only affect the system generally, but which, like pneumonia, pleurisy, and hepatic and renal colic, are also definitely localised.

In the same way, with regard to parotitis after abdominal or pelvic lesions, we may admit that the general condition of the patient may help to cause it, without denying the local influence of the reflex nervous system.

Finally, it seems probable that this change brought about in the gland is not a spasmodic closure of the duct, such as Verneuil describes, but some change in the gland itself—not a retention, but a suppression. Retention of saliva, as shown by many cases collected by M. Terrier, causes a mere passive dilatation of the gland, which varies in a transient fashion with every meal, never suppurates, is never accompanied by disturbance of the general health, and vanishes when a probe or a catheter is passed up the duct.

Perhaps this parotitis may be due, as Mr. Knaggs of Huddersfield has suggested, to a reaction consequent on long-continued constriction of the arteries of the gland. But here I will take to heart the warning given by Graves in the Clinical Lecture already quoted. "I shall leave the *explanation*," he says, "to my juniors, who always explain matters, according to my observation, much more readily than their seniors."

Note.—It may be observed that Dr. Gowers, in his work on *Diseases of the Nervous System*, chap. i, p. 92, gives a case where the patient, "thirteen days after a stab-wound in the abdomen, which healed well, had an attack of parotitis, with facial palsy; on the fortieth day there developed paralysis of the tongue, vocal cords, and limbs; and on the sixth day after the onset of these symptoms he died from respiratory palsy. Extensive peripheral neuritis was the only nerve-lesion."

Faint, illegible text on the left side of the page, possibly bleed-through from the reverse side.

Faint, illegible text on the right side of the page, possibly bleed-through from the reverse side.