

## Chronic Prostatitis

### Its Rôle in the Etiology of Sacroiliac and Spinal Arthritis\*

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Backache has long been recognized as an important symptom of chronic infections of the prostate gland, but this has been thought to be merely a referred pain. I have observed a definite correlation between chronic prostatitis and osteoarthritis of the spine and sacroiliacs, and I believe the infection often extends by way of the lymphatics from the prostate to these joints.

#### ANATOMICAL CONSIDERATIONS

Poirier and Cuneo (1) describe several lymphatic trunks which spring from the prostate, and empty into lymph nodes in the hollow of the sacrum and at the sacral promontory, and still others which empty into the iliac group of glands. Morris (2) states that it is possible from an injection of the prostate to fill the entire chain of nodes as far as the renal artery and that the lymphatics of the prostate anastomose with those of the bladder, vas deferens and rectum.

The lymphatics of the lumbar vertebrae and sacroiliac synchondroses have not been so thoroughly studied, but it is practically certain that they also drain into the lateral sacral, and iliac nodes and those nodes which lie just lateral to the bodies of the lumbar vertebrae. Prenodal anastomoses doubtless occur here, as they do between the rectum, bladder and prostate (Fig. 1).



Fig.—Lymphatics of the prostate (Cuneo and Marcille). a, b, external iliac glands; c, external iliac prostatic pedicle; d, retroprostatic glandular module; e, prostatic pedicle of the promontory; f, gland of the promontory; g, laterosacral gland; h, middle hemorrhoidal gland; i, middle hemorrhoidal trunks.

#### CLINICAL AND PATHOLOGICAL OBSERVATIONS

It has long been recognized that carcinoma of the prostate metastasizes early to the sacrum and lumbar vertebrae. Bumpus (3), after an exhaustive study of one thousand cases of carcinoma of the prostate, states that "the most common site of bony involvements is the sacrum and adjacent portions of the spine and pelvis." He found metastasis into this area in twenty-five percent of those radiographed. He always found the pelvis involved when more distant bones were affected. Sproule (4), who followed a case from beginning to end, found that the pelvis was involved first, after which the growth

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spread to the femurs and vertebrae, and from the latter to the ribs, and just before death to the humerus.

Morrissey (5) has shown that infections of the prostate and seminal vesicles may give rise to pelvic abscesses, paranephritic abscesses, and ischio-rectal abscesses. These infections doubtless leave the prostate by way of the lymphatics, as the prostatic capsule is so dense that infections break through it only with the greatest difficulty.

It is a common observation that "stiff neck" is almost always preceded by tonsillitis or pharyngitis. In these cases, it is probable that infection has spread through the lymphatics to the cervical fascia or spine.

Extensive experimental and clinical evidence has been presented by Graham and Peterman (6) to show that infections frequently extend from the liver and gall-bladder to the pancreas by way of the lymphatics. Deaver (7), Eustis (8), Harris (9), and many others have made similar observations.

#### STATISTICAL DATA

Routine prostatic examinations with microscopic study of the expressed secretion were made on all patients admitted to the U. S. Veterans' Hospital, Waukesha, Wisconsin, during the course of fifteen months. A consecutive group of five hundred of these was analyzed, and it was learned that eighty-seven, or seven percent, showed

definite clinical and laboratory evidence of prostatic infection. Radiograms of the spine and sacroiliacs were made on thirty-six of these eighty-seven patients, and twenty, or fifty-five percent, showed definite evidence of osteoarthritis of these joints. These radiographs were read by the consulting radiologist, Dr. George W. Stevens, of Milwaukee.

It should be noted that these patients were, for the most part, between thirty and forty, at which age senile osteoarthritic changes could scarcely be frequent. Furthermore, some had arthritic and neuritic symptoms, whose joints had perhaps not been involved long enough to show bony changes.

If prostatic infections spread through the blood stream, as infections from the teeth and tonsils do, one would expect that all joints of the body would be involved with equal frequency. However, this is not the case, as infections of other joints are conspicuous by their infrequency. In only four of the patients with prostatic disease were other joints involved. In two of these there was a history of recent gonorrhea, and in the third, many diseased teeth had recently been removed.

#### CONCLUSIONS

This series of cases is too short to prove, but it does suggest, that prostatic infections may spread by the lymphatics to the spine and sacroiliacs. It demonstrates that chronic prostatitis is a common condition which may lead to serious disability, and further emphasizes the importance of a careful examination of the prostate and prostatic secretion in every case of backache, sciatica, or of vague pelvic pains.

#### SUMMARY

1. The lymphatic drainage of the prostate is to the glands lying in the hollow of the sacrum and beside the bodies of the lumbar vertebra. 2. Carcinoma of the prostate metastasizes early to the sacrum and vertebra, probably by way of these lymphatics. 3. Evidence is presented to show that infections elsewhere in the body often spread by way of the lymphatics. 4. A statistical study involving five hundred ex-service men is presented, which demonstrates the frequency of prostatic infections

in this age group, and further reveals the fact that fifty-five percent of the radiograms taken of patients with chronic prostatitis showed definite arthritic changes in the spine or sacroiliacs. 5. The conclusion is reached that infections may spread by way of the lymphatics to the spine and sacroiliacs, and it is emphasized that a careful prostatic examination, including examination of the expressed secretion should be made on every male patient whose chief complaint is backache, "sciatica" or vague abdominal or pelvic pains.

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## Primary Mumps Orchitis Without Parotitis

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Orchitis is a common complication of mumps. Wesselhoef (1), in an extensive review of the literature, cites eighteen percent occurrence of this complication. He gathered sixty-four cases of orchitis without parotitis at any time. Beclère (2) reported a case in a boy of fifteen whose two comrades and two sisters developed the disease, the period of incubation being ten to fifteen days. Recently, Danielson (3) reported a similar lesion in a man of forty-seven. The following case is presented:

CASE.—J. G., twenty-nine, male, Russian, metal ceiling worker, came into Dr. Rabinowitz's office June 5, 1929, complaining of a swollen tender testicle of one week's duration.

Previous history: Father died of pleurisy at the age of fifty. The patient had been married five years and had a child of four. He smoked ten to fifteen cigars a day and had occasional attacks of tonsillitis. He denied a gonorrhoeal infection at any time.

On May 29, the patient developed pain in the left testicle which gradually increased in severity. On the third day he developed high fever, weakness and nocturia. June 1 he fainted on attempting to get out of bed to urinate. Associated symptoms were, slight cough at the onset of the illness, anorexia, constipation, and night sweats. He had lost some weight recently.

Physical examination showed an adult male, sixty-four inches tall, weighing 124½ pounds, well developed, poorly nourished, with moderate alopecia and large congested tonsils with considerable exudate. There was no submaxillary or parotid involvement; bilateral, small epitrochlear glands; no râles in the chest. The left testicle was swollen symmetrically and tender. The epididymis was distinctly palpable and not enlarged. Blood pressure was 118/70. Temperature was 101.2. The urine specific gravity was 1017; it contained a faint trace of albumin, four plus urobilinogen and occasional pus cells. Hemoglobin was 90 percent; red blood cells, 5,790,000; leucocytes, 6,250; lymphocytes, 28 percent; neutrophils, 65 percent; mononuclears and transitional cells, 5 percent; eosinophiles, 2 percent.

On June 19, the patient was almost completely recovered. He had large glands in the axilla, small discrete firm glands in the groin and epitrochlear region. The parotid and submaxillary glands were not swollen. The left testicle was still sensitive and was slightly smaller than the right. Weight was 127 pounds; blood pressure 126/70; pulse 90. The patient had been treated by a suspensory, ichthyol ointment, an analgesic and a tonic.

The diagnosis was readily made in this case of acute orchitis with fever by the absence of a gonor-