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NASO-PHARYNGEAL GRAM-NEGATIVE COCCI IN THE SECRETION OF THE CERVIX UTERI OF PROSTITUTES

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ABNORMAL sexual intercourse, specially buccal and linguo-vulvar coitus, have opened a new field of investigation for bacteriologists. Through this practice, normal saprophitic bacteria of the oral cavity and naso-pharynx and of the male and female genital organs may, under the present undetermined conditions, become virulent and give origin to pathological conditions in their new abode.

In the current medical literature infection of the male genital tract through coitus buccalis has been described by Petrazie, of Kiel,¹ Ollive and Leguyer,² etc. These last-mentioned authors found staphylococcus in the discharge of a patient suffering from acute urethritis “post coitum ab ore.” Some years ago one of us³ pointed out the possible buccal nature of the virus of lymphogranuloma inguinale, exposing in a later monograph a more detailed description of his theory, based on the clinical evidence of several cases⁴. This same possibility has recently been accepted by Nicolau⁵. The pathogenicity of buccal spirochaetes has also been recently pointed out⁶.

With the object of studying the pathogenic action of bucco-pharyngeal bacteria, and on the evidence of a case of urethritis due to diplococcus pharyngeus flavus following a buccal coitus referred to us by Dr. Cambiasso, of Conception University Medical College, we decided to investigate the nature of Gram-negative cocci found in the secretion of the cervix uteri of prostitutes.

Amongst the Gram-negative cocci of the naso-pharynx only micrococcus catarrhalis, described by Pfeiffer in 1896, has been considered as pathogenic. In 1902 Ghon and Pfeiffer related it to Weichselbaum’s meningococcus,
and held that it was capable of producing in human beings a condition resembling influenza. This fact was demonstrated in 1905 by Dunn and Gordon during an epidemic at Hertford, when they isolated from 24 out of 162 cases a Gram-negative coccus. In 1906 von Lingelsheim described certain specific, fermentative varieties of micrococcus catarrhalis, micrococcus pharyngeus sicca (Neisseria sicca), micrococcus pharyngeus cinereus, diplococcus pharyngeus flavus (types I, II and III Neisseria flava), etc. Kutscher (1906), Elser and Huntoon (1909), Martin (1911), Gaskell (1916), Gordon (1921), Lubinsky,7 Wilson,8 Wilson and Smith 9 describe different forms of Gram-negative cocci of the naso-pharynx and their cultural and specific varieties in the presence of sugars.

In order to study the Gram-negative cocci contained in the secretion of the cervix uteri, we selected twenty prostitutes, who declared that they submitted frequently to linguo-vulvar coitus and also performed suctio penis.

Secretion from the cervix was removed with the utmost precautions, employing for this object sterile glass pipettes. Material thus obtained was initially distributed in several tubes containing simple agar. In two out of the twenty cases examined we found Gram-negative cocci belonging to types considered as saprophytes of the naso-pharynx.

**Case 1.**—T. R., registered prostitute No. 84. Dispensary 51. Wassermann and Kahn tests, negative. Investigations for gonococcus, negative. After forty-eight hours at 37° C. a Gram-negative diplococcus, appearing mostly in tetrads, can be differentiated from a Gram-negative micrococcus. The diplococcus does not ferment sugars nor is it agglutinable in the presence of anti-meningococcic serum. Owing to its developing slightly yellowish colonies on agar-ascitis, we believe it is a diplococcus pharyngeus flavus III. The micrococcus presents the same qualities as those described for the diplococcus in presence of sugars and anti-meningococcic serum. Owing to these facts we classified it as micrococcus pharyngeus cinereus.

**Case 2.**—A. F., registered prostitute No. 81. Dispensary 51. Wassermann and Kahn tests negative. Cervix uteri secretion negative on several occasions to gonococcus. After forty-eight hours at 37° C. a few
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colonies of a Gram-negative diplococcus develop on simple agar. Only a few tetrads can be discovered in the smears. After several passages the diplococcus is obtained on pure cultures. It develops with difficulty, does not ferment sugars, nor agglutinate in the presence of anti-meningococcic serum. Several other methods, such as emulsifying, cultivating in other media, did not allow us to differentiate it exactly. Nevertheless we believe it to have been one of the pharyngeus flavus type.

Although we have only two cases to offer to the consideration of our readers, and notwithstanding our knowledge that the cultural and bio-chemical characters of the Gram-negative cocci are subject to such variations that they cannot justifiably be used for purposes of definitive classification, we have not hesitated in classifying the Gram-negative cocci we have isolated from the cervical secretion as naso-pharyngeal cocci of the flavus group (pseudo-meningococcus).

Gram-negative cocci other than gonococci have been isolated from the vagina by Bockart in 1886, who describes a type of diplococcus, smaller than the gonococcus, capable of producing a urethritis in males, and which he found in six out of 200 female genital secretions. He believed that this micro-organism required an alkaline media for its development, and searched for it in the cervix uteri, where he found it in two cases. On the basis of this evidence he estimated that it was probably an exogenous agent that multiplied in the vagina when conditions were favourable, otherwise being rapidly destroyed by phagocytosis. Extensive studies of the secretion of the uterus and vagina from the chemical and bacteriological aspects have been made by Schröder, Hinrichs and Kessler (Arch. Gynak., 128, 94, 1926).

Whether diplococcus pharyngeus flavus or other Gram-negative cocci belonging to the flavus group are capable of developing virulence in the genital tract we cannot answer definitely at present. The clinical evidence of cases of urethritis in males containing Gram-negative diplococci, and diagnosed as gonococcus by bacteriologists in the discharge and that cure rapidly under mild treatment, perplex the specialists, and makes us think whether these strange recoveries are not due to the fact that the germs diagnosed as gonococci were only diplococci of naso-pharyngeal origin.
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We do not pretend originality in this communication; we only desire to draw the attention of bacteriologists and venereal disease specialists towards these facts, which, on the basis of accumulated evidence, may in the future allow us to attribute or not to attribute pathogenicity to micro-organisms that up to the present have only been considered as mere saprophytes.

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Naso-Pharyngeal Gram-Negative Cocci in the Secretion of the Cervix Uteri of Prostitutes

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