

support of the National Tuberculosis Association, the power to promote public health and welfare which resides in a voluntary health agency.

**War and tuberculosis.**—Finally, a word must be added regarding the probable effect of world war upon the incidence of tuberculosis. It has been the experience in all past wars that the tuberculosis death rate in the countries involved rises sharply. There is abundant evidence that this calamity is already taking place in European countries.

Two measures are recognized as essential to control a rising death rate. The first of these is the examination by means of satisfactory chest X-rays of all men enlisted in the armed forces, thereby keeping the troops themselves free from the menace of a spreading infection. The second is to examine similarly all war workers in industry, both men and women, to avoid the possibility of an epidemic in this essential branch of war activity.

The importance of health for the successful prosecution of war is fully realized. The essential need to prevent illness among both soldiers and civilians is being met at the present time more vigorously than ever before. The effect of popular health education is shown in the more complete realization of the special danger inherent in the renewed spread of so prolonged, disabling and costly a disease as tuberculosis.

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## SOME ASPECTS OF CONTEMPORARY VENERELOGY

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This is the decade of venereology. Never before was so much progress made in the knowledge and especially in the treatment of venereal diseases. There are three cardinal points in this era: (1) massive treatment of early syphilis; (2) the discovery of sulfonamides and their value in the treatment of certain venereal diseases; and (3) recognition that venereal lymphogranulomatosis is a general, not local, disease. The first two facts have had deep repercussion in some countries with a high venereal index; the third is still in the experimental stage, but has aroused anew medical interest in the disease first discovered in 1913 by Durand, Nicolas and Favre.

**Massive arsenotherapy.**—Ehrlich and Hoffmann's goal, of a *therapia sterilisans magna* in syphilis, has been made possible through the work of Hirschfeld, Hyman and Wanger on *speed shock*. Chargin and coworkers, following the teaching of these authors, started the use of the so-called *drip method* in early syphilis. Tzanck did similar work in France. The massive method of treatment and especially the epidemiological and medico-social possibilities attached to it awakened the interest of South American experts. Prunés sponsored Hevia and Medina's thesis on this subject, while he himself used a modification of Tzanck's technique. Vicuña of the Naval Hospital of Valparaiso, followed Chargin's technique; his work being summed up in the theses of González and Giacaman. In Rancagua, Grimberg treated 135 patients using neoarsphenamine without a single death in contrast to Vicuña, two of whose 39 patients died from nephritis and serous

apoplexy (7.6%). Similar experiences were carried on in Peru and in Colombia during this period.

In Chile the high mortality connected with this treatment made doctors mistrust a method which although it had the enormous advantages of rapid sterilization and hospital isolation of foci, exacted such a high toll of young lives (about 7.5%). On hearing of the success obtained in North America through the use of arsenoxides instead of tri- or pentavalent arsenicals Chilean specialists decided to try these products. The first assays were made with mapharsen followed with an arsenoxide (oxiarsolan) manufactured by the Bacteriological Institute of Chile. The results were first reported at a meeting held at Valparaiso, Jan. 15, 1942. Prats (348 cases) and Figueroa-Body (80 cases) used the drip method giving for 5 days daily doses of 0.16 to 0.24 gm of oxiarsolan dissolved in 1,500 to 2,400 cc of saline or preferably isotonic glucose serum. Prats registered cures in 91% of his cases and Figueroa-Body in 91.5%. Among these 428 cases only one death (serous apoplexy) occurred in the Figueroa-Body series (2.1 per thousand). Prunés, Prats, Chana and other Chilean authors reported later results at meetings held in Aug., 1942, at Buenos Aires. In spite of the fact that experiments were made in other South American countries, the literature from 1940 to 1942 contains no reports other than the Chilean. Simpson, Kendell and Rose suggested (1941) the possibility of curing early syphilis in a day with the combined method of one dose of insoluble bismuth intramuscularly, a massive cure with arsenoxide intravenously while the patient remained under the influence of artificial fever (105.4 to 106.8) for 10 hours. This method has been tried by the writer, who believes it to be superior to the 5 day method. To date 13 cases of syphilis (with positive or negative sera) have been treated, and some of them have been under observation over 10 months. On the eve of the massive treatment patients receive 0.20 gm of insoluble bismuth intramuscularly; they are kept in the fever chamber for 10 hours during at least 6 of which the temperature is maintained above 105.4 F. While under this temperature 0.24 to 0.30 gm of arsenoxide (oxiarsolan) dissolved in 500 cc of normal saline are injected drop by drop, at the rate of 100 cc per hour. Only two accidents have been registered: (a case of hepatitis eight days after treatment; and one of anuria (36 hours) in which blood urea reached 2.30 gm per thousand). Both cases reacted favorably. Another case of secondary syphilis with vulvar lesions and roseola, in addition to a 2½ months pregnancy, received 0.24 gm of arsenoxide, 10 hours of fever, etc., but had a relapse after three months. She then received a total of 3.45 gm of arsphenamine in increasing doses. She came to term and was delivered of a child without signs of the disease. All patients undergo a strict examination before treatment. All patients which show parenchymatous changes, especially in the liver and kidneys, are rejected.

Massive therapy is the treatment of the future in syphilis. Even if techniques so far described fail to be universally adopted, the tedious, classic methods will be unavoidably replaced by more energetic ones requiring a shorter period of treatment, with greater advantages for the patient and the community. The last word remains unsaid, but the way is paved.

**Sulfanomides.**—The use of sulfanilamide derivatives in the treatment of gonorrhea and its complications dates back to 1937, with Dees and Colston, Reuter, Ballenger, Elder and MacDonald as its pioneers. Their success awakened interest in South America and at the sessions of the II Pan American Congress (I Argentine) of Urology held at Buenos Aires on Nov. 28 to Dec. 4, 1937, Hughes and López-García of Uruguay submitted a report on the results obtained with the use of para-amino-benzene-sulfonamide in the treatment of 106 cases of genitourinary infections, 82 of which were caused by *Neisseria gonorrhoeae*. In the ensuing discussion it was brought to light that this compound had been used,

with varying success, in other countries by López-Herrarte (Guatemala), Coutts (Chile), Rebaudi (Argentina), Andrada (Brasil) and Rueda (Colombia). Soon after, medical journals published new experiences, and in 1937-38 Iturbe, Hughes and López-García, Lucena and De Sanctis, Díaz-Castro, Vicuña, Correa and coworkers, and Coutts, among other South Americans, published the results of their experiences. Since 1938, a year which reflected the doubts of physicians in the face of a new and amazing therapy, new and more active and less toxic derivatives appeared in the market. Sulfapyridine, sulfathiazol and sulfadiazine succeeded sulfanilamide, followed each in turn by a profuse literature proclaiming their excellences. The recent book by Lacapraró (1942) summarizes many North, Central, and South American experiences with the use of these drugs in gonorrhea. In spite of hopes based on this new therapy and the unquestionable action exerted over hidden chronic gonococcal foci by sulfonamides given for other conditions, the disease curves in almost all countries have become stationary, and in some cases, even a slight increase may be observed. This important phenomenon should be analyzed bacteriologically and epidemiologically. In 1932 Segawa pointed out that the great majority of gonococcus strains have individual characteristics; but proved that 75% of gonorrheal infections are caused by one group of cocci. The question arises as to whether there is any relationship between the percentage (estimated at 15%) of failures in cases in which sulfonamides are administered at an early period and adequately, and that 25% of variants. If this proves to be a fact, it should be so stated, that investigators may return to the task with their old eagerness. Clinical observation that gonorrheal reinfections fail to respond to the same drug used successfully before, seems to confirm the above facts.

However, other not less important data are promising. Many of these cases which prove resistant to one type of sulfonamide, cure if treated with another. We have had surprising results with large doses of sulfaguanidine, although its action on gonococci is denied by all investigators. These facts are not so paradoxical when one remembers that with Donoso-Barthet and Martini, the writer proved that some *Neisseriae*, especially those of the *pharyngis* group, can infect the genital organs. Two cases of gonorrheal infections resistant to all sulfonamides proved to be due to *Neisseria sicca*. Another interesting aspect is that offered by acute marital gonorrhea. Cases have been reported by others as well as by the writer, in which the same strain has proved sulfonamide-resistant in one of the parties and not in the other. There may be some relationship between this and the pH of the media. In one of our cases trichomonas infection was found to be coexistent. Massive doses of sulfonamides injected intravenously drop by drop open a new horizon. At the meeting of the Chilean Society of Urology, Oct. 8, 1941, the writer with Banderas and Bulnes reported a group of patients suffering from acute gonorrhea and its complications who had been treated with sodium para-amino-benzene-sulfon-acetamide (albucid) in 10 to 15 gm doses dissolved in 200 to 300 cc of saline solution. A case of morbilliform erythema was the only marked unfavorable reaction. At times a single dose yielded excellent results. Results have been even better with sulfathiazol, using 6 to 10 gm dissolved in 200 to 300 cc of saline solution. No serious blood changes have developed although in some cases there was a rise in temperature. One of the greatest advantages of this method consists in the lack of allergic reactions; this suggests the possibility of using the drug in ambulatory cases of acute gonorrhea. In relation with a possible latent microbism of this disease as demonstrated in 1930, it is interesting to notice the marked decrease in cases, perhaps due in part, to the "indirect therapy" of carriers, mentioned when discussing the epidemiology of gonorrhea.

**Venereal lymphogranulomatosis.**—In 1922 Ravaut expressed for the first time his conviction that venereal lymphogranulomatosis was not a local infection of the genital organs, but a general disease. His hypothesis was based upon clinical observation. Very few doctors accepted this doctrine, but after Frei's discovery in 1925 of a specific antigen, new syndromes were assembled and the conception of a general infection was confirmed. By 1936 all syndromes attributed to the disease had been amalgamated and divided into three stages: first, secondary, and tertiary, with chronological manifestations for each one, as is the case in syphilis. The recognition of a virus as its etiological factor by Hellerstroem and Wassen (1929), acquired importance when Miyagawa and co-workers proved in 1935 the presence of visible forms in infected tissues. Its polymorphism was afterwards verified by Herzberg and the writer. Confirmation that the visible forms are the causative virus was made in chick embryos by Manabe, Rake, and Said among others. A specific standard antigen (lygranum) prepared by Rake did away with some diagnostic difficulties. The existence of these visible forms (micro and macrogranulocorpuscles), observed in sections of diseased tissue and in smears, Frei's skin reaction, the changes in the eyegrounds (Funakawa, Kitagawa, Espíldora and Coutts, etc.) and the increased visibility of the corneal nerves, pointed out by Vásquez-Barrriere and May, are specific data which increase the means available to identify and diagnose the disease. Workers in different countries have undertaken a search for new aspects of the disease adding to it a series of syndromes. It is now recognized that the virus can enter the body not only through the genitals but also through the rectum, mouth, skin, and conjunctiva. The virus, of a highly lymphogenous type, causes a lesion at the portal of entry (chancere, urethritis, vaginitis, rectitis, etc.), followed by rapid infection of near-by lymph nodes. Deep inguinal adenitis in cases of syphilitic chancre or acute gonorrhoea and its complications suggests the coexistence of venereal lymphogranuloma. The virus invades the internal genitals while cutaneous processes appear in the external ones. South American authors have studied these syndromes for years, and connected some of them for the first time with a lymphogranulomatous origin. Morales pointed out the relationship existing between this disease and genital prolapse. Research on the penetration of the disease through the rectum has been carried on by Senna and Silva, Arenas and Sammartino, Tibirica, Riveros and Morales and others. Curth, Blum, Coutts and Sáez, etc., studied years ago the buccopharyngeal penetration of the virus in abnormal coitus, while with Opazo and Montenegro the writer has upheld the possibility that the swallowed virus may cause lesions of the stomach, bowel and colon. Conjunctivitis with infection of adjacent nodes (Parinaud type) is present when the eye is the portal of entry; chronic edema of the eyelids, granular lesions (pterygion), and narrowing of the neck of the lachrymal duct, follow. Aside from the lesions which develop at the portal of entry and adjacent areas, and the followed infection of local lymph ducts, there are so many manifestations of a general order (humoral and clinical), that the nature of this disease cannot be doubted. May's book (1940) reviews the research done in South America to cast light upon various aspects of venereal lymphogranulomatosis. Many phases of the disease, as approached by South American authors, are yet to be defined, such as the presence of visible forms of the virus in ovaric lesions, in abdomino-pelvic adhesions, in certain genital and buccal carcinomata, in vegetations of the heart valves, in sclerotic arterial walls in young people, the possibility that Dupuytren's disease may be lymphogranulomatous in origin, etc. Let students of the New World establish a closer scientific interchange so that those devoted to the healing art may know the interesting material produced in South America.