

BISMUTH IN THE TREATMENT OF SYPHILIS

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The salts of bismuth were introduced in the treatment of syphilis in 1924 (C. Levaditi). They were combined with arsenobenzola (mixed classical treatment). This type of therapy was almost universally used until 1943 when the therapeutic efficacy of penicillin against syphilis was discovered. Bismuth has been completely abandoned in syphilis therapy by American and British physicians, whereas in France and many other countries it is still considered necessary by some for certain stages of syphilis.

Reasoning

We would like to re-establish the value of bismuth in physicians' estimation. Two principal objections have been advanced to justify the rejection of bismuth therapy. First, antibiotics (penicillin) were considered by some authors as the only really effective treponemicide. Second, bismuth has been considered dangerous, particularly because of nephrotoxicity.

All agree that penicillin is a remarkably effective agent against early syphilis and in the prevention of congenital syphilis: this antibiotic is unquestionably the essential drug for syphilis therapy. But use of penicillin is generally not sufficient for serologic tests to become nonreactive if it is used in treatment of syphilis more than 3 to 6 months after infection; also, it does not improve the grave prognosis of late visceral syphilis. The absence of penicillin resistance of treponema is real from the standpoint of the microbiologic laboratory, but this fact is not borne out on clinical grounds.

In our opinion, bismuth toxicity (nephrotoxicity) has been exaggerated. Renal side effects (as proved by proteinuria and renal casts in high levels of serum urea, late nephritis) are rarely proved to be due to bismuth. As far as our own experience is concerned, bismuth tolerance is very satisfactory when one considers the large number of patients treated.

Although I have reservations as to the significance and interpretation of the serologic course, I must emphasize that various statistical studies indicate that a significantly higher percentage of seronegativity is obtained in secondary syphilis with penicillin complemented by bismuth than when penicillin has been the sole treatment. Our findings in 1,981 patients with early syphilis (1967) revealed that serologic tests were still reactive one year after therapy in 32% and 45% of secondary syphilis patients treated by penicillin alone respectively before the third month and between the third and sixth month after infection. However, this seroreactivity was no more than 22% and 27% in secondary syphilis patients treated with combined bismuth-penicillin therapy starting at similar periods after infection. Still more significant are cases in which bismuth has been effective in tertiary, cutaneous or bone syphilis resistant to penicillin. We have observed several examples of this.

Finally, bismuth is still indicated in visceral syphilis not only because of effectiveness, but also to prevent severe Jarisch-Herxheimer reaction (neurologic, cardiac or aortic), which may occur when penicillin is started as a first medication.

Method

We use bismuth in oily suspensions (Bispecia), in intramuscular injections which correspond to 0.075 gm of metallic bismuth twice a week, up to 15 to 20 injections in the adult, according to the patient's weight. Routine examinations are done before starting the treatment as well as before the 6th and 12th injection to rule out proteinuria; a complete renal examination is done in aged patients and in those with visceral syphilis, especially with aortic involvement. Any sign of renal trouble naturally contraindicates bismuth treatment.

Intravenous injections of Vitamin C, administration of penicillin G and regular dental supervision may prevent or cure gingivostomatitis due to bismuth.

Although we treat primary syphilis with one course of 15 million units of penicillin alone, in the secondary stage, we recommend after this first treatment with penicillin alone a complementary treatment with penicillin-bismuth preparation (courses of bismuth just following courses of penicillin). This treatment is pursued 1 to 3 years (or even 4 years), according to the interval between infection and starting of the therapy and to the intervals necessary to attain an eventual seronegative reaction. Intervals between treatments are 1 month during the first 2 years, then 2 months. We know that, in the United States, such a long

duration of therapy may be considered exaggerated and hardly acceptable to patients; as for our country, we generally meet no real difficulties of patient compliance in our clinics.

The penicillin-bismuth treatment of long duration is also used in seroreactive latent syphilis. In old cases of seroreactive syphilis, previously untreated or untreated for a long time, we administer 2 courses of bismuth before penicillin in order to prevent Herxheimer flare-ups of deep latent foci. This treatment is likewise used in cases of aortic syphilis (provided kidneys and heart are normal), since in such cases, the risk of relapse is even greater when penicillin is started as primary treatment.

Whereas general paralysis responds to penicillin only, in tabes dorsalis and other neurologic manifestations of syphilis we use bismuth in successive and comparative trials, which such therapeutically difficult locations make necessary. We frequently choose mercury cyanide for nerve syphilis. Bismuth is also given with penicillin in congenital syphilis.

No rigid therapeutic regimens are possible in syphilis; too many factors must be considered in choosing therapy, including psychologic or social factors.

Conclusions

Bismuth does not deserve to be restricted or even abandoned in syphilis therapy as is now done in certain countries. In France, where, contrary to our personal opinion, some syphilologists had abandoned bismuth, this remedy is again being used by many of those who had spoken against it.

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