Experience with penicillin in the treatment of syphilis now extends over a period of more than six years. Numerous articles on various phases of this experience have been published in the American, British, French, Polish and other national medical literature. A bibliography giving a partial list of these publications is appended.

In general the following definite statements concerning the present status of penicillin therapy for syphilis can be made:++

Crystalline penicillin G in aqueous solution administered in appropriate time-dosage schedules will cure at least 90% of patients with early infectious syphilis. An example schedule: 40,000 Oxford units every 3 hours day and night for 60 injections or total of 2.4 million units.

Repository preparations such as penicillin G in oil and beeswax (Kamansky formula) or more preferably aqueous procaine penicillin or procaine penicillin in oil th 2% aluminium monostearate will also give a high cure rate in early infectious syphilis at least as good as aqueous penicillin G, when administered in appropriate time-dosage schedules. Procaine Penicillin G in oil and 2% Aluminium Monostearate is the drug of choice in treatment of syphilis and gonorrhea. Simple schedule: 4,000 Oxford Units (2cc) of Procaine Penicillin G in oil with monostearate daily for 24 hours) for 6 to 8 days.

Prepared by Mortimer S. Falk, M.D., M.S.P.H., ad hoc WHO Venereal Disease Consultant, for the Regional Committee meeting, Genova 12 October 1949.

For more elaborate information on developments relating to penicillin in syphilis refer to bibliographical notes prepared by the VD Section and the reports of the first and second session of the WHO Expert Committee on Venereal Diseases (WHO Off. Rec. 8 and 15).
3. In prenatal syphilis penicillin treatment, utilizing either of the suggested schedules, will afford a healthy infant in more than 95% of cases, no matter which trimester during pregnancy the mother is treated.

4. American statistics based on significantly large series of patients indicate that so-called combined treatment schedules utilizing penicillin, arsenicals and/or bismuth have no advantages over penicillin alone (when administered in proper time-dosage schedule).

5. In early congenital syphilis (up to two years) aqueous crystalline penicillin G has given excellent results. There is reason to believe that repository penicillin preparations are equally effective. (Sample schedule: A total of 200,000 Oxford units per kilogram of body weight divided into 120 equal doses administered every 3 hours (15 days).

6. It is desirable to follow the progress of penicillin-treated early syphilis with quantitative serologic tests for syphilis at monthly intervals for at least the first post-treatment year. The blood serologic tests for syphilis become gradually reduced in quantitative titre over a period of months after treatment. In general the rate of serologic reversal varies directly with length of time the patient has been infected.

7. It is known that penicillin is of value in other stages of syphilis, viz. latent syphilis, various forms of tertiary syphilis, late congenital syphilis, neurosyphilis and cardiovascular syphilis. However, a discussion of penicillin therapy for these conditions would necessarily have to include many qualifications to be scientifically accurate. The reader is, therefore, referred to the appended reference list for articles concerning penicillin therapy in these phases of syphilis.

8. There is evidence that the incidence of late syphilitic manifestations will be extremely low in the patients treated for early syphilis with penicillin. Partial indicative of this is the small percentage (less than 1%) of abnormal spinal fluids found after one, two, three and four years in patients who have received adequate penicillin therapy.

9. It is important to emphasize that in addition to the efficacy afforded by penicillin therapy it has the additional advantage of an extremely low toxicity in comparison with arsenicals and heavy metals and from the public health viewpoint the percentage of patients completing treatment is increased from an average of 10–30% (routine accepted courses of arsenical-bismuth therapy) to practically 100%.
REFERENCE LIST

PENICILLIN IN EARLY SYPHILIS

Arnold, R.C. and Nicholson, F.P.
Treatment Failures vs Reinfections following Penicillin Therapy in Early syphilis.

Blackwood, J.Q., Scott, V. and Clark, E.G.
Treatment of early syphilis with sodium penicillin. A preliminary report with comparison of results with 4,800,000 units, administered in seven and a half days, with smaller dosages.

The Treatment of Early Syphilis with 300,000 units of Crystalline Penicillin C in Peanut Oil and Beeswax (POB) for 16 consecutive days. Arch.Dermat. & Syph., 1948. (Press)


Heller, J.R., Bowman, R.W. and Price, E.V.
Rapid Treatment of Early Syphilis; Progress Report, December 1947.

Holley, H.L.
Penicillin Therapy of Early Syphilis. Amer.J.Syph., 31: 41-44 (Jan) 1947

Kitchen, D.K., Thomas, E.W. and Rein, C.R.
Serum Concentrations Following Five Treatment Schedules with Procaine Penicillin in Oil with Aluminium Monostearate. (In Press).

Lortat-Jacob, E.

Lourie, E.M.

Mahoney, J.F., Arnold, R.C. and Harris, A.
Mahoney, J.F., Arnold, A.C., Sternor, B.L., Harris, A. and Zwally, M.R.

McElligott, G.L.M.
The Treatment of Syphilis with Penicillin.

Moore, J.E., Mahoney, J.F., Schwartz, W., Sternberg, T. and Wood, W.B.
The Treatment of Early Syphilis with Penicillin.

Rider, R.V.
Report of the Central Statistical Unit;
II. Amorphous Penicillin vs Crystalline Penicillin G;
III. Aqueous Penicillin vs Penicillin-Oil-Beeswax.

Schoch, A.G. and Alexander L.J.
Penicillin Treatment of Early Syphilis.

Schoch, A.G.
A Comparison of Treatment Results Utilizing Crystalline
Penicillin G in the Treatment of Patients with Early
Syphilis: Injections Every Two Hours vs Injections Every

Scott, V.
1948. p.335.

Smith, D.C., Kaufman, W.H. and Schafer, J.C.
Treatment of Early Acquired Syphilis with 600,000 units of

Steenbergen, E.P.
Eerste voorlopige mededeling over de systematische
behandeling van syphilis met penicilline.

Sternberg, T.H. and Leifer, W.
Penicillin treatment of early syphilis.
Thomas, E.W.

Penicillin Treatment of Early Syphilis.

Thomas, E.W.


Thomas, E.W.

Recent Developments in the Treatment of syphilis.


Newer Repository Penicillin Products.

Thomas, E.W., Landy, S. and Cooper, C.


Turner, T.B.

Penicillin with Venereal Disease Control Program.

US Public Health Service


Wammock, V.S.


Webster, Bruse et al.


Zwijndregt, H.A., Steenbergen, E.F. van and Stam, A.C.M.

REFERENCE LIST

PENICILLIN IN PREGNANT AND INFANTILE SYphilis

Aliamet, P.

Prevention of Hereditary Syphilis by Penicillin (La prévention de l'hérida-syphilis par la penicilline).
Clinique, 42: 3 (5-20 Jan) 1947.

Aron, H.C.S., Barton, R.L. and Bauer, T.J.


Barker, L.F.


Barnett, C.W., and Read, J.M.

Syphilis in Pregnancy.

Cole, H.N., Ayres, S. et al.

Use of Penicillin in the Treatment of Syphilis in Pregnancy.

Comfort, A.

Congenital Syphilis in an Infant Treated with Penicillin.

Cross, R.G.


Dabacens, A.


Frazier, C.N.

Prevention of Syphilis in Newborn (Use of Penicillin).

Girling-Butcher, M.


Goodwin, M.S. and Farber, M.S.

Goodwin, M.S. and Moore, J.E.  
Penicillin in Prevention of Prenatal Syphilis.  
J. Amer. med. Assoc. 130: 688 (16 Mar) 1946.

Green, H.J. and Hobby, G.L.  

Heyman, A. and Yampolsky, J.  
Treatment of Infantile Congenital Syphilis with Penicillin.  

Hill, Jr., A.J., Platou, R.V. and Kometani, J.T.  
Ossseous congenital syphilis: Effects of penicillin on rate of healing.  

Early Congenital Syphilis.  

Hutton, A.M. and Parks, J.  
The transmission of penicillin through the placenta: A Preliminary Report.  

Ingram, Jr., C.H.  
Syphilis in Pregnancy Treated by Penicillin.  

Ingraham, Jr., N.R. et al.  
Penicillin in the Treatment of the Syphilitic Infant.  

Ingraham, Jr., N.R. et al.  
Penicillin Treatment of the Syphilitic Pregnant Woman.  

Ingraham, Jr., N.R., Rose, E.K., Beerman, H., Wamack, V.S., Stokes, J. and Grögy, P.  
Treatment of the Syphilitic Pregnant Woman with Penicillin in Oil-Beeswax: A comparison with results obtained using aqueous sódium penicillin.  

Klauder, J.W.  

Levin, J.M.


Lee Ping Kian


Lourie, E.M.


McEligott, G.L.V.


Moon-Adams, D. and Milsom, Ch.


Navarro Martinez, J.


Neilson, J.W. et al.


Glansky, Sidney and Beck, Robert.


Parrich, P.L.


Platou, R.V. et al.


Rose, E.K., Greary P. and Ingraham, Jr. N.R.


Rose, E.K., Greary, P. and Ingraham, N.R.

Sheppe, W.M.

The Place of Penicillin in the Treatment of Syphilis.

Simpson, F.E.

The Diagnosis and Treatment of Congenital Syphilis.

Solloway, Herman M.


Speiser, W., Flaum, G., Moon-Adams, D. and Thomas, E.W.


Speiser, M.


Speiser, M. and Thomas, E.W.


Stigter, W.

Treatment of Congenital Syphilis with Penicillin.

Tucker, H.A.

Penicillin Syphilotherapy administered prior to pregnancy. A Study of 111 pregnancies during which additional anti-syphilitic treatment was withheld. Amer.J.Syph., 33: 1, (Jan) 1949.

Tucker, H.A.

Penicillin syphilotherapy during pregnancy: A Study of 149 pregnancies during which penicillin was given for early maternal syphilis. In Press.

Watson, E.R.


Wilkinson, E.E., Saunders, W.H. and Hansen, A.E.


Woltz, J.H.E. and Wiley, W.M.

Woltz, J.H.E. and Zintel, H.A.


Yampolsky, J. and Heyman, A.


Yampolsky, J.


Penicillin for Congenital Syphilis.


Penicillin in the Treatment of Syphilis.


De Jong, S.J.

REFERENCE LIST

PENICILLIN IN NEUROSYphilis

Crawford, G.M.


Curtis, A.C., Harne, S.F. and Norton, D.H.

Neurosyphilis: Evaluation After Two Years of Treatment with Penicillin Alone and with a Combination of Penicillin and Malaria. Amer. J. Syph., 32: 546, 1948.

Dattner, B.


Dattner, B.


Dattner, B.


Dattner, B., Kaufman, S. and Thomas, E.W.


Delay, J., Dreyfus-Moreau and Stevenin, L.


Gilpin, S.F.


Heyman, A.


Jones, W.L., and Perk, D.

Kierland, R.R., O'Leary, P.A., and Underwood, L.J.

Koteen, H., Doty, E.J., Webster, B., and McDermott, W.

Leavitt, H.M.

Martin, J.P.
The Treatment of Neurosyphilis with Penicillin.

Merritt, H.H., Adams, R.D., and Solomon, H.C.
Neurosyphilis, New York, Oxford University Press, 1946.

Nichol, W.D.

O'Leary, P.A.
Penicillin in the Treatment of Syphilis.

Penicillin in the Treatment of Neurosyphilis.

Parkhurst, G.E., and Bowman, R.W.

Reiner, E.R., and Weickhardt, G.D.
Penicillin Therapy in Neurology and Psychiatry.

Reynolds, P.W., Mohr, D.F., and Moore, J.E.
Penicillin in the Treatment of Neurosyphilis.

Rose, A.S.
Penicillin Treatment of Neurosyphilis.

Rose, A.S., and Solomon, H.C.
(a) Penicillin in the Treatment of Neurosyphilis.

Penicillin Treatment of Neurosyphilis.
Amer.J.Syph. 27: 37 1945.


Solomon, H.C.


Stern, J.E., and Campbell, H.M.


Stokes, J.H., Steiger, H.P., and Gammon, G.D.


Tapella, P.A., Uhia, J.S., y Tamborini, R.L.


Tucker, H.A., and Robinson, R.C.