

TRANSGROW MEDIUM FOR TRICHOMONAS VAGINALIS* (A Preliminary study)

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Summary

A new solid transgrow medium has been described for the transport, primary isolation and maintenance of *Trichomonas Vaginalis*. Perhaps this is the first solid medium ever described for Trichomonads.

A medium that will help in the transport of the infectious material from one place to another without destroying the organism and at the same time helping the growth of organism is necessary to avail the laboratory facilities for proper diagnosis of cases. This is necessary in a country like ours where laboratory facilities are confined mainly to bigger hospitals.

An ideal transgrow medium is one which is selective for the pathogen present in the secretions, has a prolonged shelf life and be of a solid composition for mailing. In addition it should preserve the viability of the organism for more than 24 hours in ambient temperature and help the growth of the organism.

Trichomonas vaginalis is a common infection seen in V.D. clinics and also in gynaecological clinics. Though smear diagnosis is easy it is not always reliable and in 10.6% of cases of males with urethritis and prostatitis attending the

Institute of Venereology in a recent study diagnosis could be made only by the culture of the organisms. But facilities for culture may not be available in all the clinics. Hence the secretions will have to be transported under special conditions to different laboratories not only preserving the organism but also helping the growth of the organisms while in transit. Even if facilities are available locally the laboratory may not be attached to the clinic with the result that some time elapses before the material is received at the laboratory. During this period the organism being a fastidious one might lose its viability. So for the maintenance and growth of the organism the laboratory facilities will have to be extended to the bedside of the patient.

Various culture media like the Diamond's C.P.L.M.¹ Cruickshank² and Whittington³ are used to culture *T. vaginalis*. At the Institute of Venereology till recently Diamond's medium was being used but due to non-availability of horse serum the diamonds medium had to be modified and the beaten egg which is cheaper and easily available had to be substituted. This modified medium was found to be equally good for primary isolation and for maintenance of the stock cultures, but being a liquid medium transportation became

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difficult and messy. So a solid medium had to be devised as a further step to the modified Diamond's medium.

The aim of this paper is to present preliminary findings on the usefulness of the modified solid Diamonds medium developed at the Institute of Venereology, Madras as a transgrow medium for *Trichomonas vaginalis*.

The solid transgrow medium consists of:

Bacto casitone	2.0 gms
Yeast extract	1.0 gm
Maltose	0.5 gm
L. Cystine Hydrochloride	0.1 gm
Ascorbic acid	0.2 gm
Agar Agar	1.0 gm
Distilled water	90 ml.

The above medium was autoclaved at 121°C for 10 minutes cooled to 45°C 10 cc of beaten egg, 100,000 I. U. of penicillin and 100 milligrams of streptomycin were added. This was distributed in 4 ml. quantities in screwcapped test tubes kept in refrigerator and used within 2 weeks from the date of preparation.

Discharges taken from 66 women patients attending the out-patient department of the Institute of Venereology were collected in 2 cotton swabs. One of the swabs was placed in the modified Diamonds liquid medium and the other in the solid medium. The specimens transported to the laboratory were incubated within 3 to 4 hours. The cultures were examined at the end of every 24 hours for 3 days. On those that were negative at the end of 48 hours subcultures were done before a final negative report was given.

Out of 66 specimens inoculated, the culture was positive in 40 (66.7%) cases in both the media, and in two cases

only in solid medium and in one case only in the liquid medium.

Thus it will be seen that the solid modified Diamonds medium equally supported the growth of trichomonas for the primary isolation even while transporting the secretions. It was also noticed that in this medium the trichomonas vaginalis were not only viable but also grew profusely.

Two local strains of *Trichomonas Vaginalis* one isolated from the vaginal discharge and the other one from a buttock lesions from a male patient are being maintained in liquid medium for the past one year. These Trichomonads are serially being subcultured into the solid medium to study the growth of these organisms in this medium. Till now 64 passages have been done at a regular interval of 72 hours and the organisms are growing well in this medium.

One batch of solid and liquid media was prepared with half the quantity of antibiotics i.e. 50,000 units of Penicillin and 50 milligram of Streptomycin. Three recently isolated strains of *T. vaginalis* were inoculated into these media on 2 different occasions. Every time there was growth of Trichomonads in the solid medium but no growth in liquid medium except in one.

In another experiment both the media containing the same amount of antibiotics were kept in the refrigerator for more than 2 weeks to see how long it will remain without being destroyed. At the beginning of the 3rd week, 2 recently isolated strains were inoculated into these media. Both the strains grew well in the solid medium whereas in the liquid medium only one strain grew even that not so well as in the solid medium.

Transgrow media described by Martin⁴ et al and transport medium described by Stuart's⁵ modified by Reyn⁶

have been widely used for transport, growth and maintenance of *Neisseria gonorrhoea*. Stuarts medium was also used for *trichomonas vaginalis* as a transport medium. However it was found that his medium did not support the growth of the organism and was not recommended as a transgrow medium.

The transgrow solid medium developed at the Institute of Venereology, Madras has been found to be useful for the primary isolation of *Trichomonas vaginalis* from the discharges of the patients. In a few cases the growth was more luxuriant in solid medium compared with liquid medium. For serial subcultures - also solid medium was found to be useful.

In addition this medium supported the growth of *Trichomonads* while suppressing the growth of other organisms even when the concentration of antibiotics like penicillin and streptomycin were reduced to half the quantity normally required for liquid medium.

The solid medium incorporated with the antibiotics was found viable for more than 2 weeks while the liquid medium with antibiotics lost its viability at the end of 2 weeks.

Further studies on the optimum incubation period, the viability of the *trichomonads* in this medium, the cultivation of *trichomonads* other than

T. vaginalis and the usefulness as a transgrow medium for transporting the materials from the other hospitals in the city and outside stations are under progress.

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