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## Discussion: Chinese Techniques for Chemical Sterilization

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During the past 5 or 6 years, individuals interested in nonsurgical methods of female sterilization have been tantalized by published reports of work by Chinese scientists in this field. Two simple and promising techniques, using different approaches and materials, have been described in the preceding chapters, and Drs. Tien and Zheng supplied further details in the discussion summarized here.

### HOW MANY INDIVIDUALS ARE DOING THESE PROCEDURES, AND HOW MANY PROCEDURES HAVE BEEN DONE UP TO THE PRESENT TIME?

At the Xin-Hua Hospital in Shanghai, two or three people perform the PAP instillation technique. By now, they have been doing it for several years and are able to achieve almost 100% successful tubal entry.

To date, there are 200 medical units located in 28 provinces of China where personnel have received training in instilling the PAP material, and in an effort to find out how many procedures had actually been done, Dr. Yu-Hau Wu visited 33 medical units, including the 10 in and around Shanghai. If one considers only the 10 Shanghai units, about 10,000 procedures have been done. Adding the 20,000 more done in other parts of the country, some 30,000 patients have had PAP instillations. The patients that have been followed for the most recent 2-year period have had 99% success, in terms of tubes occluded and no pregnancies.

At the Second Affiliated Hospital in Canton, every month about four or five nurses, physicians, and midwives receive training in the phenol-mucilage procedure. The midwives are allowed to do the procedure without supervision, and two nurses are also doing it on a regular basis at the hospital.

The Chinese government has just approved a visiting training program, through which Dr. Wu will travel throughout China, training people in the field with this technique. The Chinese government apparently has accepted it as a useful technique that is applicable to the needs of the Chinese people.

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HOW LONG DOES IT TAKE TO BECOME EXPERT  
IN THE PAP INSTILLATION TECHNIQUE?

If a person can perform the procedure on 20 patients, that is, 40 tubes, he or she is considered to have mastered the technique. The length of training depends on whether the individual is a doctor or nurse, who can complete the training in about 2 weeks, or a paramedical person, who may require longer training.

HOW LONG DOES IT TAKE TO PERFORM THE PAP  
INSTILLATION, FROM THE TIME THE PATIENT GETS  
ON THE TABLE UNTIL THE PROCEDURE IS COMPLETED?

Generally, the entire procedure is completed in 15 minutes or less. Much depends on the position of the tubes. If the tube is easily located, it may take only 1 to 2 minutes for instillation, but if the orifice is somewhat difficult to locate, the procedure may take longer.

IN THE ROENTGENOGRAMS, SOME OF THE PAP WAS SEEN  
FLOWING BACK INTO THE CORNUAL AREAS;  
IS THIS A USUAL OCCURRENCE?

The material seen on the films flowing back into the uterine cornu was the excess PAP, which is expected when the cannula is withdrawn after the injection. However, only 0.1 ml to 0.15 ml per tube is required for successful blockage.

AFTER THE PAP INJECTION, DOES THE MATERIAL COMING  
BACK INTO THE UTERINE CAVITY PRODUCE IRRITATION  
OF THE ENDOMETRIUM, ADHESIONS, ASHERMAN'S SYNDROME,  
OR SIMILAR PROBLEMS?

A small percentage of the women complain of a yellowish, possibly serosanguineous discharge for about 3 weeks after the procedure, so apparently there is some endometrial irritation caused by the chemical, but it does not seem to last. The cannula may also produce some trauma. No cases of endometrial adhesions have developed post procedure.

DO PATIENTS HAVE A SIGNIFICANT AMOUNT OF PELVIC PAIN  
OR OTHER SIDE-EFFECTS FOLLOWING INSTILLATION  
OF THE PHENOL-MUCILAGE?

American investigators testing silver nitrate (an ion that is similar to phenol) stopped using the chemical because of the high proportion of patients who had significant pelvic pain.

In the phenol-mucilage studies, pain has not been a major complaint. Some patients complained of backache, but they did not require medication. They also had some feelings of abdominal bloating for about 3 weeks after the procedure. In one of the studies described, 40 patients had inflammation of the pelvis, probably secondary to chemical peritoneal irritation; 7 of the patients developed fever 1 or 2 hours after the injection and experienced the pain later. These 7 were observed in the hospital for 2 or 3 days. In the other 33 patients, the pain and fever, and an elevated leukocyte count, did not develop for 2 or 3 days, but none of these patients required hospitalization.

### **ARE THE COMPLAINTS ABOUT PAIN MORE SEVERE WITH THE CHEMICAL PROCEDURE THAN WITH STANDARD SURGICAL STERILIZATION PROCEDURES?**

Making a comparison of a symptom that is subjective is difficult. The PAP patients do not complain much of pain and do not return to the hospital specifically because of pain, although when they come in for follow-up and are asked about pain, they say that they did have some.

### **WHAT PERCENTAGE OF PATIENTS ELECT SURGICAL STERILIZATION RATHER THAN CHEMICAL STERILIZATION?**

Very few surgical sterilization procedures are being done now; most are non-surgical, and at the Xin-Hua Hospital the chemical sterilization procedure is recommended. It is highly acceptable because it is simple and does not require surgery.

### **WHAT IS CONSIDERED "SUCCESS" IN THE PAP PROCEDURE?**

As long as there is no back-flow of the saline and there is no a positive result of the sodium saccharide test, then the procedure is considered successful. Failure means failure to identify the ostia in order to get the saline in or to have a positive result of the sodium saccharide test. In about 8% of cases, the operator fails to find the ostium on the first try, but in this case the woman is asked to return for a second treatment or more until the procedure has been completed.

### **HOW SUCCESSFUL ARE EFFORTS AT FOLLOW-UP IN CHINA?**

There is almost 100% follow-up of these patients, so the 99% success rate with regards to pregnancy (or the 1% failure rate) is probably a very accurate figure. Once the patients leave Shanghai, however, they are not easily followed, even through vital statistics records.