THE ADVANTAGES OF DOUBLE PUNCTURE OVER SINGLE PUNCTURE IN LAPAROSCOPY IN THE ASSESSMENT OF AN INFERTILE PATIENT

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SUMMARY

The double puncture (manipulator) is more reliable than single puncture to the rule out pelvic pathology, and if pathology is diagnosed assess its nature and extent. A strong plea is made for the use of double puncture scopy only in the work up of infertility even though it may mean more time. Due to the cost factor, a single puncture scope (no duty) with Verres' needle or knitting needle as manipulator would be equally effective. The complication rate of the second puncture is insignificant.

Introduction

In about 60% of infertile couples the cause of infertility lies in the female. Of these, 40% cases have a tubal factor. It has often been stated that for the diagnosis and evaluaion of infertility a double puncture laparoscope is a must. Only a double puncture scope allows easy manipulation of tissues, so essential, if one wants to study surface of the tubes, ovaries, uterus and surrounding pelvic structures.

Material and Methods

We conducted a study of single versus double puncture laparoscopy and set up the following protocol. A thorough single puncture scopy was done by the Tutor and Assistant Honorary. The findings were noted. Then the double puncture trocar and cannula were introduced, and with a manipulator, a thorough re-evaluation was done. The tubes were visualised as the dye was being pushed through them, and spill from the fimbrial ends looked for. The motility of the tubes was also looked for. The difference in findings were noted. Altogether we did 123 scopies for infertility.

Results

Out of 123 cases, 24 patients had 27 (22%) laparoscopically detectable abnormalities. Of these 27 abnormalities, in 19 (70%) we would either have missed the abnormality or its proper assessment would not have been possible with single puncture alone.

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Table I reveals that on single puncture in only 1 case was dye seen in the pouch of Douglas with peritubal adhesions, whereas with a double puncture 4 additional cases and 1 case with added fimbrial phimosis was identified. These would have been missed completely with only a single puncture.. This is very significant as adhesiolysis results in a high pregnancy rate.

A single case of isthmic block was detected, where double puncture was essential to demarcate the level of the block accurately. Interstitial block (1 case) was adequately diagnosed by single puncture.

Fimbrial phimosis is defined as ballooning of the tube proximal to the fimbrial end on pushing dye, with dye seen trickling from the fimbrial end with varying degrees of fimbrial inversion.

TABLE I
Patent Tubes With Peritubal Adhesions

Findings	Single Puncture	Double Puncture	Difference
(a) Patent tubes with peritubal adhesions	1	5	4
(b) Same as above with fimbrial phimosis	0	1	1
Total	1	6	5

Not mentioned are 2 cases thought to have omental adhesions on single puncture, which proved to be false on double puncture. Thus 2 patients were saved unnecessary laparotomies.

As shown by Table II only 1 patient of fimbrial block was diagnosed with single puncture, whereas 2 additional cases were diagnosed with double puncture. This also has a good prognosis with fimbrioplasty or salpingoneostomy.

Two cases were identified by double puncture and none with single puncture (Table III). This again is significant as fimbrioplasty has a good fertility prognosis.

Table IV illustrates that in only 2 cases could Stein-Leventhal ovaries be identified by single puncture, whereas 4 additional cases were detected by double

TABLE II
Tubal Block

Findings	Single Puncture	Double Puncture	Difference
(a) Fimbrial Block	1	3	2
(b) Isthmic Block	1 (Level of block not accurate with S.P.)	1	1 (Level of block not accurate with S.P.)
(c) Interstitial Block	1	1	0
Total	2	5	3

TABLE III
Fimbrial Phimosis

Findings	Single Puncture	Double Puncture	Difference
(a) Fimbrial Phimosis	0	2	2
Total	0	2	2

TABLE IV
Ovarian Pathology

Findings	Single Puncture	Double Puncture	Difference
(a) Stein-Leventhal Ovaries	2	6	4
(b) Streak ovaries	0	2	2
(c) Ovarian cyst	1	1	0
Total	3	9	6

puncture. Both cases of streak ovaries could only be confidently identified by double puncture scopy. The single case of unilateral ovarian cyst was easily diagnosed both by single and double puncture.

The presence of Graafian follicles and corpus luteum could only be confidently ascertained with the double puncture.

Table V shows that double puncture diagnosed 2 cases of thickened unhealthy tubes not revealed by single puncture. These may well respond to antibiotics, resulting in pregnancy. In 1 case the uterus and adnexae appeared normal, but with a double puncture the pouch of Douglas and large bowels were seen to be studded with miliary tubercles.

TABLE V
Miscellaneous

Findings	Single Puncture	Double Puncture	Difference
(a) Thickened unhealthy patent tubes	0	2	2
(b) Missing tubes with hypoplastic uterus with normal ovaries	1	1	0
(c) Fibroids on uterus	1	1	0
(d) T.B. Peritonitis	0	1	1
Total	2	5	3

Fibroids and missing tubes with hypoplastic uterus were adequately diagnosed by single puncture.

Discussion

Our study shows that with a double puncture manipulator one is able to detect and locate abnormalities better. There were no complications seen in this study. This proves that the risk of double puncture is negligible in the hands of well trained personnel. Also patient discomfort was comparable.