

# Modification in Prostate True Cut Biopsy Technique

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## ABSTRACT

**Introduction:** To evaluate the modified technique of taking prostate true cut biopsy by covering the tip of biopsy gun by infant feeding tube while introducing it in the rectum. The result was evaluated in terms of patient comfort and surgeon's safety.

**Methods:** 50 patients (Age range 52 – 85 years, Mean age 67 years) underwent prostate true cut biopsy between January 2018 and Feb 2020. First 25 cases (Group A) were done by routine finger guided transrectal biopsy and next 25 cases (Group B) were done by modified technique of transrectal true cut biopsy by covering the tip of biopsy gun by infant feeding tube. Assessments were done for unintentional needle pricks, injury to gloves, quality of cores and bleeding.

**Results:** There were 22 unintentional needle pricks to the patients in Group A as compare to only 2 pricks in Group B. There were 4 gloves injuries in Group A as compare to nil in Group B. Minor bleeding was seen in 5 patients in Group A as compared to only 1 in Group B. Good core quality was received in 120 times and 125 times in groups A & B respectively.

**Conclusion:** Covering of tip of biopsy gun by infant feeding tube while introducing it for transrectal biopsy offers a significant advantage in terms of patient's comfort and operators' safety without adding much to the cost of the procedure.

**Keywords:** Modification, Prostate, True Cut, Biopsy.

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## INTRODUCTION

Prostate true cut biopsy is the standard method for diagnosis and predicting prognosis of prostate Cancer. Ideal way to do this is TRUS guided perineal or transrectal route, but still, at majority of places where TRUS is not readily available, it is taken by finger guided technique. Usual indications are Raised S.PSA and abnormal Digital rectal examination (DRE). Sextant biopsy is taken along with biopsy of suspicious nodules. Many times, there is unintentional touching or pricking of the bare biopsy needle to patient's anal canal and gives Rectal bleeding and discomfort to the patients, who then might not cooperate further for taking another core. Surgeon's non dominant finger might injure sometimes or it's glove damages risking the surgeon's safety. Here the modified biopsy technique is evaluated by covering it with Infant feeding tube to minimise the incidence of bleeding and patient discomfort.

## MATERIALS AND METHODS

Prostate true cut biopsy was indicated in 50 patients due to abnormal S.PSA and / or DRE. First 25 cases were grouped as Group A and next 25 cases as Group B. In Group A Biopsies were taken in lithotomy position, without any anaesthesia. Well

lubricated finger with lignocaine jelly was introduced in rectum gently and prostate was palpated. Then finger was withdrawn and loaded true cut biopsy gun of 18 Gauge was place on tip of index finger of left hand (non dominant). Finger was gently inserted by keeping little pressure at 6 o'clock so as to protect the mucosa of anal canal from needle. Then finger was further advanced to one side of prostate and needle tip was inserted at desired place by approx 2 mm. Then finger was withdrawn and gun was fired and withdrawn. Same procedure was repeated for at least 6 or more times in a patient.

For group B, an Infant feeding tube of no.10 was taken and it's both tips were cut and then the length was also shortened by cutting it to the size approximately 2 cm short of the biopsy needle in loaded state. Then the needle was introduced into the tube in such a manner that the tube was projecting approx. half cm beyond the needle tip as shown in Fig. 1. The biopsy gun was held in right hand (Dominant) and its index finger kept the tube in its position as shown in Fig.1. Then the finger with needle covered by also introduced gently as described earlier, and tip fixed as desired location. Then feeding tube is withdrawn proximally so as to protrude needle from its covering, then needle tip was inserted

at desired place by approx 2 mm. Then finger was withdrawn and gun was fired and withdrawn. Sometimes tube becomes slippery due to jelly, and then a gauge piece was used to hold and withdraw the tube.

Same procedure was repeated for at least 6 or more times in a patient. Parameters like Unintentional pricks, Glove damage, Bleeding, Quality of good cores, and Needle Fire through tube's wall were noted.



Figure 1: Sequential steps showing how the infant feeding tube covers the tip of the biopsy gun, it's introduction into the rectum and firing position.

Parameter	Group A (25)	Group B (25)
Unintentional pricks	22 times in 16 pts	2 times in 2pts
Glove damage	4	0
Bleeding	5	1
Quality of good cores	120 times out of 170	125 times out of 175
Needle Fire through tube wall	Nil	4

Table 1: Complications in both groups.

## RESULTS

There were 22 unintentional needle pricks to the patients in Group A as compare to only 2 pricks in Group B. There was minor bleeding from pricks in 5 patients in Group A & 1 patient in Group B due to mucosal injury or minor haemorrhoids. There were 4 gloves injuries in Group A as compare to nil in Group B. Good core quality were received in 120 times and 125 times in groups A & B respectively. There were 4 incidences when needle was fired though the tube wall in group B, which happened in initial cases (shown in Table 1). That was due to the extra length of the tube, which was rectified later on. When tube was short enough to cover the tip distally and adequate length proximally and proper withdrawal of tube was done after positioning, no incidence of fire through tube occurred.

## DISCUSSION

Although TRUS guided transrectal biopsy is ideal, but it is still not available in developing and underdeveloped countries at many centres. Finger guided prostate biopsies are taken at these centers.<sup>1</sup> Though prostate true cut biopsy is considered as a minor procedure and done without any anaesthesia, it causes rectal bleeding, mild to moderate discomfort to the patients.<sup>2</sup> Most of the time this is due to unintentional pricks of true cut needle while introducing it into the rectum. When surgeon is too conscious to protect the mucosa of anal canal then he may injure himself. Many times, gloves are also seen torn after the procedure, which is also an indirect evidence for breach in surgeon's safety. If there is much discomfort to the patient, he may not co-operate to take adequate cores. Darlington C used needle cap for surgeon's

safety during the procedure.<sup>3,4</sup> We could not find any other literature of using any protective cover for this procedure anywhere. Infant feeding tube is easily available in most of the operation theatres and is very economic. It adds a lot to patient's comfort and operator's safety.

### CONCLUSIONS

Covering the tip of biopsy gun by infant feeding tube while introducing it for transrectal biopsy offers a significant advantage in terms of patient's comfort and operator's safety without adding much to the cost of the procedure.

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