

EFFICACY OF VAGINAL PREP DURING PELVIC RECONSTRUCTIVE SURGERY

Hypothesis / aims of study

Vaginal procedures are considered clean-contaminated cases. With the advancement of technology, synthetic permanent material are being used more than ever before to restore and add support to the pelvic. The concern with the use of this mesh material is infection, given the site they are being used. Eventhough we have extensive experience with the use of hernia mesh in abdominal cases, the use of such devices in the vagina is quite novel. In this study we wanted to study how quickly the vagina re-colonizes after a standard povidone iodine prep.

Study design, materials and methods

This is a prospective, ongoing study which thus far has recruited 9 patients. All patients signed the IRB-approved consent, and all underwent pelvic reconstructive surgery longer than 2 hours in duration. Vaginal cultures were taken at the following times: zero (immediately before and after prep), ½ hour , 1 hour, 1½ hour, 2 hours and 2½ hour into the surgery. At each time frames two sets of cultures were taken, one proximally from inside the vagina, and one distally from the introitus. The only outcome parameter measured was whether there was any bacterial growth.

Results

Time	Site	Positive at 24 H	Positive at 48H	Growth
zero	Ant. Before prep	7	7	
	Post. Before prep	7	7	
	Ant. After prep	--	--	
	Post. After prep	--	2	Mixed G+Cocci
½ Hour	Anterior	2	2	Mixed G+Cocci
	Posterior	1	4	Mixed G+Cocci
1 Hour	Anterior	3	5	
	Posterior	1		
1 ½ Hour	Anterior	2	4	Mixed G+Cocci
	Posterior	--	2	Mixed G+Cocci
2 Hour	Anterior	2	4	Mixed G+Cocci
	Posterior	1	4	Mixed G+Cocci
2 ½ Hour	Anterior	2	5	Mixed G+Cocci
	Posterior	1	5	Mixed G+Cocci

Interpretation of results

Anterior (distal) preps: 7/9 cultures (77.7 %) were positive before the prep, with no cultures (0/9) being positive immediately after the prep. However colonization started as early as ½ hour into the surgery with 3/9 (33.3 %) cultures positive. Posteriorly (proximal) a similar trend was noted: 7/9 cultures positive (77.7%) before prep, while 2/9 (22.2%) remained positive after the prep. In this site the recolonization also started immediately within the first 30 minute of surgery. Overall 4/9 patients (44.4 %) were recolonized by the end of surgery

Concluding message

Recolonization of the vagina in vaginal surgey is a rapid process due to its natural proximity to the rectum. 5/9 patients were recolonized by the end of the surgery, with 3/9 being recolonized as early as 30 minutes into the surgery. Also noted was the fact that we were unable to eradicated vaginal bacteria from the posterior (proximal) vaginal sites deep inside the vagina even at the start of the procedures immediately after the prep, with 2/9 patients having positive cultures. Therefore the following conclusions are made: (1) Vaginal surgeries

are clean but contaminated cases with rapid colonization of the vagina within the first 30 minutes of surgery. The clinical significance of this in terms of actual mesh infection needs to be further studied. (2) Despite the standard technique of vaginal prepping, the most proximal (posterior) part of the vagina, deep inside, is the hardest to eradicate of bacteria, as 2/9 patients in our series had positive cultures immediately after prep. Therefore more attention, perhaps with longer prepping of this area is suggested. Again the clinical effect of this on mesh infection is unknown and merits further study.