

Follow-up of prolapse surgery in rural Nepal

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Abstract Pelvic organ prolapse (POP) is a significant problem in Nepal. Surgical treatment is scarcely available and little is known of the results of POP surgery on women living under burdensome circumstances. The aim of our study was to set up a follow-up program in rural Nepal and evaluate POP surgery. In 2004 and 2006, 74 women with a POP from remote areas around Dhulikhel Hospital underwent prolapse surgery. Together with local contacts men, a plan was made to implement a follow-up program. All the operated patients were invited to a follow-up visit in March 2007. Thirty-three (45%) patients attended the follow-up: 85% ($n=28$) found the effect of the procedure an improvement. A satisfactory anatomic outcome was found in 93% ($n=32$). A remarkable finding was the reduction in physical labour after the surgical procedure in 50% of the follow-up cases. Some adjustments in the follow-up program may contribute to a higher participation.

Keywords Uterine prolapse · Follow-up · Pelvic surgery · Success rate · Nepal

Introduction

By the time a Nepali woman, living in remote districts, reaches her 20s, she usually is the mother of several children and often suffering from a pelvic organ prolapse (POP). In a region in West Nepal, 25% of the visitors of free female health care clinics was diagnosed with first-, second- and third-degree uterine prolapse and procidentia [1]. In Bajhang, another deprived region in West Nepal, 51.6% of the visitors of a medical camp for women presented with a gynaecological problem of which 36% concerned uterovaginal prolapse [2].

Throughout her life, a Nepali girl is expected to do more work from an earlier age on and is less likely to be sent to school than her brothers. She will be married off at the earliest opportunity, frequently in her early teens and sent to live with her husband's family where she will be expected to do the bulk of the physical work. Her status will be directly related to her ability to produce sons and to work hard, and any decisions related to her personal well-being, health, food intake or other activities will be taken by her husband or mother-in-law [3]. In general, the concept of the need to rest before and after childbirth is not accepted and women are frequently expected to continue their hard physical labour within a few days of giving birth. The availability of medical care is very limited so in most cases there is no skilled medical assistance at the birth. The result is a very high maternal mortality rate (539 per 100,000 births) [4] and those who survive may often face a lifetime of suffering caused by severe uterine prolapse. A womb descended outside the vagina leads to difficulties in performing daily work and sometimes to ulceration and infections. The strong taboos around reproductive issues mean that most women suffer silently. Often, these women are abandoned by their husbands or evicted from the house

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since they are no longer able to produce children or meet the sexual needs of their husbands. So, despite the benign character of POP, the impact of a severe POP can be dramatic in less developed countries.

Treatment for pelvic organ prolapse is scarcely available. In Nepal, governmental and non-governmental organizations (NGO) exist, which are aware of the problem and provide surgery for women with severe prolapse [5]. Also, some NGOs from outside the country are contributing in prolapse surgery. From 2004 on, Women for Women (WfW), a Dutch NGO, is working together with the staff of a teaching hospital in Dhulikhel, Nepal in treating women with severe prolapse.

It is unknown if the subjective and objective results of surgical treatment of women living under the conditions described are comparable with the results of prolapse surgery in the developed world. Most of the published results of surgical management of pelvic organ prolapse concern women in industrialized countries [6]. The lifestyle of women in these countries is quite different from those of women in remote districts in less developed countries. Chronic and repetitive increase of abdominal pressure (for example: heavy lifting) is a contributing factor in the development of POP [7, 8]. In the literature we did not find data describing the influence of heavy physical activity after surgery for pelvic organ prolapse on the chance of developing a recurrence of the prolapse or a vault prolapse.

Because of the lack of knowledge of the impact of pelvic surgery on women with severe prolapse in less developed countries, we decided to investigate if a follow-up program of prolapse surgery could be realised in the remote areas around Dhulikhel.

Materials and methods

A team of doctors of Dhulikhel Hospital and NGO workers of WfW have held free health camps for women in November 2004 and March 2006 in the remote districts around Dhulikhel. These female health camps were aimed at gynaecological problems with special interest in POP.

A total of 77 women with pelvic organ prolapse were selected for a surgical procedure. The Baden and Walker classification, practiced in Dhulikhel Hospital for years, was used to stage the pelvic organ prolapse [9]. Most of the patients were operated by a Dutch NGO gynaecologist together with a Nepalese gynaecologist or resident in gynaecology. Some procedures were performed by Nepalese specialists only. This leads to the fact that some different procedures were performed, mostly vaginal hysterectomies with anterior and/or posterior repair (78%). In most of the vaginal hysterectomy cases, a McCall culdoplasty was done. Three selected patients did not undergo an operation for various reasons.

In the postoperative period, the patients received physiotherapy and lifestyle instructions. The instructions comprised of 2 weeks of complete rest after discharge and another 6 weeks of performing light work only. After 3 months, the women were allowed to resume their normal activities including heavy lifting and working in the field. Patients were discharged from the hospital 4 to 10 days after surgery. Files of all patients are stored in the archive of Dhulikhel Hospital, including surgery notes.

In January 2007, the NGO group and the gynaecologists from Dhulikhel Hospital started the preparations for the planned follow-up program. Patients were personally informed through a network of health care workers from the outreach clinics of Dhulikhel Hospital. Local contacts—men in the villages belonging to an outreach clinic—received information of the follow-up examination and they invited the operated patients personally or with the help of informed operated patients to attend the outreach clinic on the scheduled day. These men played a key role in informing patients and gaining patients' trust in this follow-up program.

The archived files were searched for details like the age of the patient, the degree of POP, the surgeon, the procedure performed, complications, and we calculated the time since surgery. Finally, together with the Nepalese medical staff we created a structured questionnaire. This questionnaire, which was designed for systematically interviewing each patient, was based on existing validated questionnaires as much as possible, but then adjusted to the Nepalese circumstances.

In March 2007, the outreach clinics of Bahunepati, Dhading, Baluwa and Dapcha were visited by the follow-up team consisting of a Nepali junior doctor and three members of the Dutch NGO group of WfW, including a gynaecologist. Also, patients living in Makawanpur, the southern part of Nepal, were visited. Each place was visited by the complete team only once. There was no time left for a second visit after a couple of weeks as was the advice of the local contacts men. The interval between operation and follow-up was between 12 and 27 months (median 12 months).

The follow-up program consisted of an interview and a gynaecological examination. The interview contained items concerning the daily activities performed by the patient before and after the procedure divided into work around the house (light loads) or work on the field (heavy loads). Furthermore, there were questions concerning the resting period taken after discharge from the hospital and the occurrence of discomfort, urinary incontinence and/or sexual dysfunction. All the questions were provided with examples of current activities of women in these areas. All the patients were asked the same questions and the same examples of activities were given. At the end of the interview, the patient was asked to give her opinion on the effect of the procedure: did the operation reduce her physical impairment? Finally, she was asked whether she

was satisfied, neutral or unsatisfied with the impact of the operation on her daily life.

The interview was taken by a Dutch NGO worker and a medically trained Nepalese interpreter. The participation of a Nepalese health worker possibly had the additional advantage of preventing the patients from giving only desirable answers, as is often the case in the local culture. Finally, the patients underwent a gynaecological check with emphasis on detecting recurrent prolapse for which the Baden Walker classification was used.

Access to the follow-up program was free of charge and no compensation was offered for the patient's participation.

Results

In this study, 77 patients were included and 74 of them were operated. The characteristics of these 74 patients are presented in Table 1. In the majority of the cases, a grade 2 or 3 POP was diagnosed. In total, 33 patients (45%) were examined during the follow-up program, while 41 patients (55%) did not appear for follow-up.

The median age for these two groups was 49 and 45 years at the time of the surgical procedure. There was no difference in age and degree of POP with the patients who did not show up. The women of the follow-up group had delivered two to nine children (median five). There were no sufficient and adequate data available in the medical record of the hospital concerning the pre-operative complaints and history data like parity. The treatment of the uterovaginal prolapse consisted of a vaginal procedure (hysterectomy with or without an

Table 1 Patient basic characteristics and performed prolapse operations

	Total	Follow-up	No follow-up
<i>N</i>	77		
Operated	74	33	41
Median age	46 (24–72)	49 (29–72)	45 (24–70)
Baden Walker grade			
I	5	2	3
II	27	12	15
III	30	16	14
IV	5	3	2
Unknown	7	0	7
Procedure			
VH*	3	0	3
VH with AR and/or PR	58	30	28
AR and/or PR	4	1	3
TAH + as	2	2	0
Unknown	7	0	7

* *VH* vaginal hysterectomy, *AR* anterior repair, *PR* posterior repair, *TAH* trans abdominal hysterectomy, *as* apical suspension

Table 2 Results of the POP surgery in the follow-up group (*n*=33)

	Pre-operative	Post-operative			
Baden Walker grade					
0	0		22		
1	2		10		
2	12		1		
3	16		0		
4	3		0		
Interview		<i>N</i> *	<i>S</i>	<i>M</i>	<i>G</i>
Pain/discomfort		11	17	4	1
Urinary incontinence		17	12	4	0
Sexual dysfunction		25	6	2	0
Effect of procedure					
Improvement			28		
Neutral			3		
Worsening			2		
Satisfaction					
Satisfied			28		
Neutral			3		
Unsatisfied			2		

* *N* none, *S* slightly, *M* moderately, *G* greatly

anterior-, posterior-, and/or enterocele repair or just an anterior/posterior repair) in 65 cases. In two of the remaining cases, a different procedure (transabdominal hysterectomy with vaginal vault suspension with mersilene sling) [10] was performed. In seven cases, we did not have the details about the (vaginal) procedure at our disposal because of the absence of the medical file. By chance, all of these missing files belonged to patients who did not show up for follow-up.

After discharge from the hospital, most of the patients (*n*=32) took at least 30 days rest before participating again in normal daily activities, 13 patients even took more than 3 months rest.

The gynaecological examination showed that one patient had a grade 2 vault prolapse (Table 2). In five cases (15%) there was a cystocele grade I, and a rectocele grade I was present in five cases (15%). Seventeen patients noted that they were experiencing some discomfort such as backache or lower abdominal pain, four patients had moderate and one patient had severe discomfort. Furthermore, patients were reporting urinary incontinence (*n*=16) and/or sexual dysfunction (*n*=8). In evaluating the procedure, 28 patients (85%) explained the effect of the procedure as an important improvement, three (9%) patients were neutral in their

Table 3 Daily activities before and after prolapse surgery in the follow-up group

	Load of activities		
Before operation	Light loads	Heavy loads	Heavy loads
After operation	Light loads	Heavy loads	Light loads
No of patients	2	16	15
Median age	57.0	37.5	50.0

judgement and two patients (6%) declared their situation had deteriorated and were unsatisfied. Both of these patients have had a transabdominal hysterectomy with vaginal vault suspension. One of them had a re-operation in another hospital because of persisting prolapse of the anterior wall, while the other patient had a good anatomical result but had serious pain. One of the three patients who were neutral in their judgement had a vault prolapse, one had a rectocele I and the last patient showed a good anatomical result.

Daily activities before and after the operation are presented in Table 3. Sixteen patients (median age 37.5) declared to do the same heavy work as they used to do. Another 15 patients (median age 50.0) were now doing lighter work, for instance as a housewife, instead of working on the field or carrying heavy loads. The two remaining patients (median age 57.0) were doing the same light work as before.

Discussion

After a rather long period of preparation, the Nepalese–Dutch team did perform a first follow-up program on prolapse surgery in the area around Dhulikhel Hospital under challenging circumstances. Problems related to the political situation and the illiteracy and problems related to geographical constraints in the districts where the investigated patients lived were obstacles in carrying out the follow-up. One has to realise that most women had to walk for several hours to and from their homes to the health posts simply for an interview and a gynaecological examination. In our follow-up study of POP surgery in the rural areas of Nepal, the role of local contact men was a crucial one. They were able to localize the patients directly or through their own network. Of the invited patients, 45% did show up for the follow-up. The contact men were convinced that more women would have come for the visit if the political situation was more favourable and if the remote districts were visited once more.

Obviously, we can only guess at the arguments the patients had for not visiting the follow-up team. Patients might not have shown up because they were completely satisfied, but the opposite might also be the case. Therefore, we should acknowledge that the results are biased, and modesty in interpreting the results of our study should be considered.

The most important outcome of a surgical treatment of POP for the patient is the relief of symptoms and improvement in her quality of life [11]. As we were not able to use a validated questionnaire for the interviews, the results should be treated with some modesty. In the future, some interest should be put in creating a validated way of questioning patients in given circumstances. Most of our follow-up patients find the current situation an improvement (85%) in relation to before the operation and are satisfied (85%) with the result of the treatment for their

POP after 1 to 2 years. In accordance with this subjective finding, which might have been influenced by desirable answers, is the anatomical result: in only one case a grade 2 vault prolapse is seen 1 year after the procedure. The patients with a grade 1 cystocele or rectocele after pelvic surgery did not have serious complaints. These results so far are not different from results in the literature [12, 13].

To our surprise, in our study group nearly 50% of the women operated changed their daily activities to lighter work in comparison to the time before the operation. The other half of the patients did exactly the same heavy physical work as before the operation. We did not find a relation between the type of daily activities after the procedure and the anatomical result found during follow-up after 1 to 2 years. Women who changed workload were of an older age (median 50 years) than women who did not change workload (median 37.5 years). It is not impossible that these older women transferred the more heavy work to their daughter(s)-in-law. This may be a contributing factor in the development of a prolapse in the next generation of women in these districts. We think that this remarkable finding so far is a point of interest for future research.

Our follow-up study gives us a first impression of the result of prolapse surgery among women in the remote districts of Nepal. Most of the operated women did benefit up to 2 years from their surgery. Nevertheless, a follow-up interval of 1 to 2 years after the surgical procedure is too short to predict the long-term results under the given burdensome circumstances.

Accomplishing a follow-up study after prolapse surgery in a population that differs from the populations of which we know the results from literature, is an important point of interest. It is legitimate to perform this follow-up study on a more regular basis and fit it in the existing medical care available in the rural areas of Nepal. Perhaps in that way it is possible to obtain a higher attendance rate with less effort for the patient and the medical team. And in the end we can obtain a better view on the (long-term) results.

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The local medical ethical committee of Dhulikhel Hospital gave permission for the follow-up study.

Conflicts of interest None.

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