



Management of Invasive Carcinoma of Cervix after Simple Hysterectomy at NICRH

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Abstract

Invasive cervical cancer are sometimes inappropriately managed by simple Hysterectomy and referred afterwards at NICR&H for further management. It has been proven as an inadequate treatment resulting in a reduced survival rate. Objective: The aim of this study was to find out the reason for such inappropriate surgery, further management options, prognosis and survival. Methods: Sixty one cases of invasive cervical cancer referred after simple hysterectomy were studied regarding indications for hysterectomy and histopathology. Disease status at the time of referral was noted and accordingly categorized into two group depending on the presence of residual growth at the vault .All of them got adjuvant concurrent chemo-radiation.. Result : Sixty one cases of cancer cervix patients were followed up for 6 month to 60 month after completion of radiotherapy. Median period of follow-up was 14 months. 65% had abnormal per-vaginal bleeding preoperatively. At the time of referral 23% (14) had residual growth at the vault. After completion of concurrent chemoradiation 75% (47) patients became disease free. Metastasis occur in two cases. Overall survival rate was 90.2% Median survival was 56 month. Among the prognostic factors type of histopathology ($p \leq 0.01$) and presence of gross cancer tissue at the vault after surgery ($p \leq 0.001$) was found to influence the treatment outcome. Conclusion: Inadvertant simple hysterectomy in cervical carcinoma increases morbidity and decreases survival and should be condemned.

Key words: Hysterectomy; Chemo-radiation; Histopathology; Lymphadenectomy.

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1. Introduction

Cervical cancer is the second most common female cancer and one of the leading causes of cancer deaths in females worldwide [1,2].

Invasive cervical cancer is treated optimally by radical hysterectomy and pelvic lymph-adenectomy or radical pelvic irradiation to encompass the primary areas at risk of disease spread, the parametrium and regional lymph nodes. The only exception is microinvasive squamous cell carcinoma with neoplastic lesion invading the stroma to a depth of 3 mm or less without lymphovascular space involvement (FIGO stage IA1) [3]. These lesions can be treated adequately by simple hysterectomy because the risk of parametrial or nodal spread is negligible [4,5]. For lesions not qualifying as microinvasive, simple hysterectomy is inadequate, producing inferior survival [6,7]. Thus when simple hysterectomy is performed in the presence of cervical cancer, this situation is commonly referred to as “cut-through hysterectomy” and further therapy with irradiation or radical reoperation is advised.

Invasive cervical cancer cases are sometimes inappropriately managed by hysterectomy which may involve removal of the tubes and ovaries depending on the age, parity and clinical indications, with the patient referred afterwards. Such procedures are performed unknowingly for management of benign uterine disease in the presence of undiagnosed cervical carcinoma. Total hysterectomy alone for treatment of cervical cancer results in a risk of recurrence as high as 60%. [8] Most patients with early-stage cervical cancer undergo radical hysterectomy with pelvic, para-aortic lymphadenectomy, with 5-year survival rates of 75%–90% [9,10,11].

When Invasive cervical cancer is detected after Simple Hysterectomy, further treatment is radiotherapy in most of the cases, but in few selected cases radical reoperation consisting of radical parametrectomy, upper vaginectomy and pelvic lymphadenectomy can be done.

The aim of this study was to determine the reasons for such operation, to evaluate factors related to prognosis and to analyze the results of available treatment options.

2. Materials and Methods

This is a retrospective cross sectional study of 61 cervical cancer cases subjected to simple hysterectomy elsewhere and referred to National Institute of cancer Research and Hospital afterwards. These patients attended NICRH outdoor from January to December 2014. Information regarding pre operative status, indication for hysterectomy, time of referral to cancer institute and histopathological diagnosis were obtained. Physical finding at the time of referral were noted and investigations including haematological profile, chest X ray, Ultrasonography of whole abdomen and histopathology were evaluated. Patients in group I had no apparent residual growth at the vault where as group II patients had undergone subtotal hysterectomy or had gross residual tissue at the vault. This Institute has the ability to give adjuvant therapy like Chemotherapy and radiation. All the patients included in this study are 1) diagnosed as a case of carcinoma cervix by histopathology 2) have undergone simple hysterectomy with or without salpingoophorectomy 3) are treated with standard CCRT regimen following surgery and 4) attended outdoor for follow up on several occasion. The

amount of radiotherapy was standardized usually consisting of whole pelvis external radiotherapy with weakly chemotherapy and vaginal Brachytherapy. The radiation was given either by cobalt with anterior/posterior cobalts or by the four field box technique using linear accelerator.

Records of these 61 patients were examined to know the time of operation, time taken to complete radiotherapy, frequency of follow up, complication and survival.

3. Results

From January to December 2014 about 2020 patients with cancer cervix attended NICRH outdoor . Of these, 150 patients had undergone inappropriate simple hysterectomy elsewhere in the presence of cervical cancer. Among them 61 patients were selected according to the selection criteria. They were followed up to December 2014 (range 6 to 60 months).

Presence of gross disease, type of histopstholgy and time lapse between surgery and referral to higher center were considered to be significant prognostic factors.

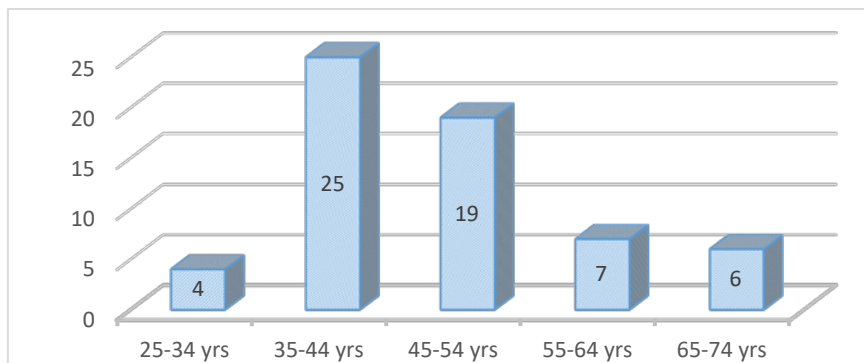


Figure 3: Age distribution of the patients

The age of 61 patients in the study ranged from 25 to 74 yrs (mean age 46.49±10 yrs).Most of the patients was in 35-44 yrs age group.15 patients had menopause.

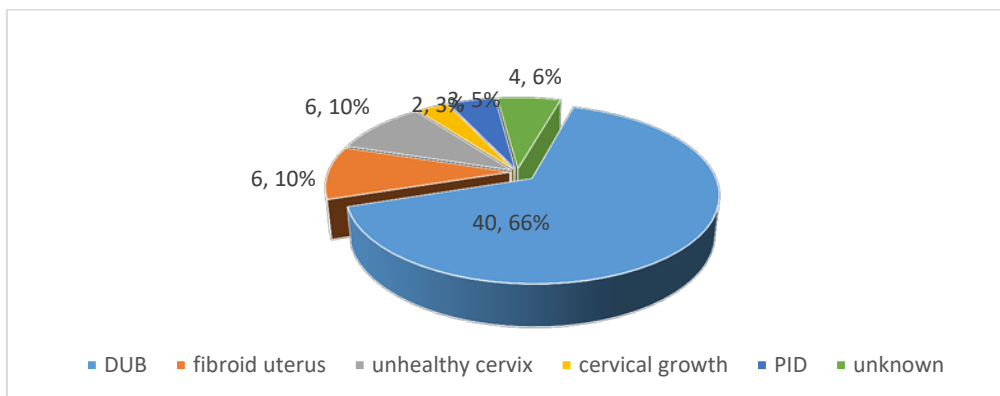


Figure 4: Indications for Hysterectomy

In 66% cases, simple hysterectomy was done due to abnormal uterine bleeding. In a number of patients who had complained about abnormal uterine bleeding simple per speculum examination was omitted. Among all the cases, there was no history of screening test done. 25% patient had history of postmenopausal bleeding.

Histopathology showed squamous cell carcinoma in 49 patients, adenocarcinoma in 11 patients and adeno-squamous in one patient

Table 1: Nature of Complication

Complication	Number of patients	Frequency %
Recurrence	4	6.5
Residual disease at vault	4	6.5
Fistula	2	3.2
Metastasis	4	6.5

47 patients were found to be clinically disease free after radiation. 6 patients developed recurrence and four had residual disease in spite of receiving post hysterectomy treatment.

All 61 patients were followed up to December 2014. All patients took CCRT as further treatment. A few of the patients had regular follow up . 46 (75.4%) came on follow up for 2 yrs, 7 (11.5%) for 3 yrs and only 8 patients attended OPD for upto 5 years.

Diagrametic representation of the consequences of patients after treatment

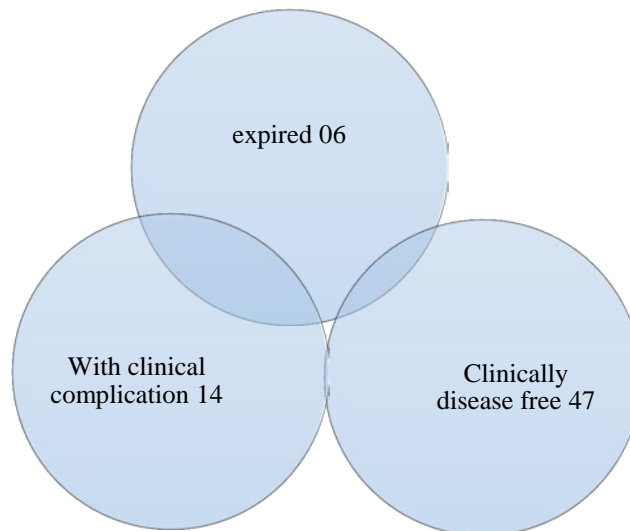


Figure 5

Among 61 patients six patients died where as 47 became free of disease . Two patients developed fistula and one of them died probably due to electrolyte imbalance and in other four the cause of death is not certain. Two patients developed metastasis at the incision site and parital wall respectedly, one patient in the lung and in another at the vault.

Table 2: Analysis of prognostic factors

Prognostic factors	No of patient	Clinically disease free	
Residual tissue at the vault aftery surgery			
No residual disease	44	39	
With residual disease	17	08	P=.001
Time of referral			
<6 month	44	37	p=.03
>6 month	17	10	
Type of histopathology			
Squamous cell carcinoma	49	41	P=.01
adenocarcinoma	12	06	

47 had undergone total abdominal hysterectomy with or without bilateral salpingo ophorectomy and had no visible growth at the vault after operative procedure, 41 of them were disease free. 14 patients reported with gross residual diseases or visible growth at the vault after hysterectomy and 6 of them were clinically disease free .(p=.001)

44 patients started radiotherapy within 6 month of surgery and 37 of them were disease free after completion of radiotherapy where as 17 patients got radiotherapy beyond 6 month and 10 of them were disease free.

41 out of 49 patients with squamous cell carcinoma were disease free where as 6 out of 12 patients with other histopathology were healthy after radiotherapy.

Overall survival was 90.2%. Median survival was 56 month.

4. Discussion

Hysterectomy is one of the most common gynaecological operation done now a days. It is performed with a multitude of indication with a low rate of morbidity and mortality. With the advent of cytologic screening attention to the diagnosis of cervical diseases, invasisve malignancy is usually diagnosed preoperatively in the patient with cervical cancer [9]. In a few cases simple hysterectomy was done despite the known presence of invasive cancer of cervix. In some Werthems Hysterectomy were said to have been performed however after

review of the operative notes and the histopathology findings it was quite obvious that these procedures had been nearly simple hysterectomies with removal of few iliac lymph nodes. Deep pelvic dissection and removal of the parametrial paracervical and paravaginal tissues together with an adequate amount of upper vagina which is the essence of true Wertheims-Meigs radical hysterectomy. Garg sonali and his colleagues found in a study that 62.5% of simple hysterectomy done in invasive cervical cancer patient.

Reference [8] In a number of patients who had complained of abnormal bleeding, simple hysterectomy had been under taken without preliminary vaginal cytologic examination, cervical biopsy, or curettage and occasionally without even speculum examination of the cervix.

In many of these patients Cancer was not suspected, although abnormal bleeding was a symptom in many of these woman, cytologic examination, biopsy, curettage and conization were not utilized properly to exclude the presence of invasive disease. Simple hysterectomy was erroneously believed to represent the adequate treatment and referral to an institution with facilities available for adequate treatment was delayed when unsuspected cancer was found in simple hysterectomy specimen.

As a rule total hysterectomy is not curative in invasive carcinoma because the paravaginal and paracervical soft tissue including the upper vagina and pelvic lymph nodes are not removed. For this reason further treatment has to be supplemented to improve survival. In our study, 6 patient died among 61 patients who were undergone simple hysterectomy and were subjected to CCRT with an intention to cure.

Many studies have reported poor result after simple hysterectomy in the presence of invasive cancer. Reference [7] Jones reported 41.6% five year survival rate in 36 patient with early stage I cervical cancer who had been treated with hysterectomy alone. After proper management of invasive cervical cancer in early stage disease five year survival ranging between 80 to 90% for stage I and 65 to 70% for stage II disease. Reference [7] Schmidt reported a five year survival rate of 60% when the lesion was confined to the cervix and only 16% with involvement of surgical margin.

In this study overall survival is 90.2%. Here all the patient got chemoradiation irrespective of free or positive surgical margin. Five year survival rate after post hysterectomy radiotherapy in invasive cervical cancer who had no apparent residual disease ranged from 71-90% [8].

Overall survival rate with no residual disease is only 50% in one study and it was presumed that this was due to late referral of most patients. Durrance reported a 92% survival when hysterectomy margins were free of disease and adjuvant radiation therapy was used [12].

Andras and his colleagues in a follow up reported a 96% 5 year survival when tumour was microscopic and confined to the cervix. Reference [13] In our study Overall survival was 95% who had no gross residual tissue at the vault after operation and 71.4% in whom there was gross residual cancer tissue was present. The probable cause of high survival is most of the patients were referred early and many of them got Brachytherapy if residual tissue persisted after concurrent chemoradiation..

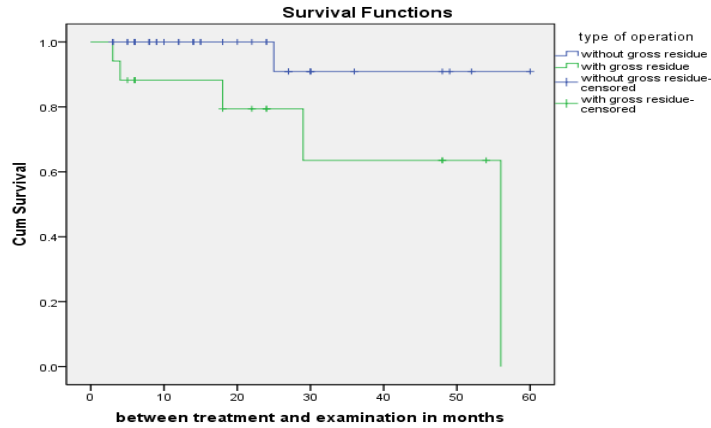


Figure 1: Survival by presence of residual tissue at the vault

Survival of patients with gross residue after hysterectomy is poor. Reported survival rate for patients with gross residue receiving radiotherapy ranges from 23% to 43%. Survival rate in another study at 6 to 48 months follow up with gross disease was 26%. When gross tumour was present or margins were not free, survival dropped to approximately 85% [14]. Cosbie reported a 71% survival when no residual tissue was present with a decrease in survival to 20% when residual disease was present [15]. The group of patients with residual tumour would be similar to the group that we consider to be stage II. Davy reported a 77% survival when margins were free and 38% survival when margins were involved [14]. In our study 14(22%) patients had visible growth after hysterectomy and the survival rate is 71% who had residue at the vault. In one study the cumulative 5 year survival rate for all the patients was 68% and this was significantly related to the cell type, with the squamous having an 80% and the adenocarcinoma a 41% cumulative survival [9]. A previous evaluation from the University of Michigan suggested that the patients with adenocarcinoma of cervix treated by standard hysterectomy and external radiation therapy had an ominous prognosis and poor survival [16]. We found 98% overall survival of patients with squamous cell carcinoma but those with adenocarcinoma the survival is much lower that is 58%. (fig 2) It is possible that the adenocarcinoma type require doses beyond those necessary for sq cell disease thus increase mortality [14].

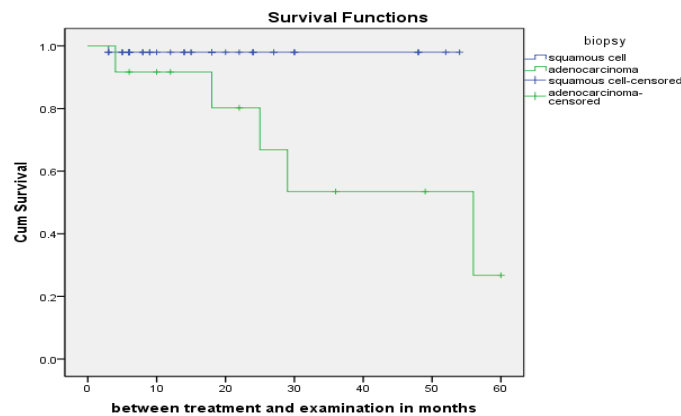


Figure 2: Survival by cell types for all patients

In one study, the survival rate was 48% in patients in whom post hysterectomy treatment was started within 6 months of hysterectomy [8]. While the survival rate was just 17% in patients in whom the treatment was started more than 6 months after hysterectomy. For patients where therapy was delayed beyond 6 months, survival was reduced to 20%. Hellar recently reported on 18 patients with presumed stage I disease and they had 78% survival when treated in the immediate postoperative period. Seven patients with presumed stage II disease had 67% survival [17]. In our study overall survival is 91.3% who started radiotherapy within 6 month and who got therapy beyond 6 month the survival is 86.7% irrespective of presence or absence of residual cancer tissue at the vault.

5. Conclusion

Physicians must be aware that the presence of cervical cancer must be excluded before performing simple total hysterectomy. In the face of abnormal bleeding it is imperative to evaluate the cervix first by means of cytology and speculum examination, Schillars test, punch biopsy, D and C and Cone biopsy, where indicated. The first chance is the best chance to treat cancer but a second chance for cure is better than none. Simple hysterectomy has no place as a primary treatment for invasive cancer of cervix. Inadvertant simple hysterectomy if done by mistake, there should be no delay in referral to an institution where adequate treatment is available.

6. Limitation of the study

It was better if we could compare the result with the patients who got radiotherapy after proper surgery. Retrograde staging was not done properly as we could not get the detailed histopathology report eg stromal invasion, involved vaginal margin etc. In many of the cases the mode of death was not defined clearly. So cancer as cause of death could not be established strongly.

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