Staging Issues in Cervical Cancer

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Abstract

Background: Worldwide cervical cancer is third most common cancer, but diagnostic, therapeutic problems continue in developing countries where it is most common cancer in women. Very few women report at operable stage. For those subjected to surgery, intraoperative findings, histopathology provides information for continuing or abandoning surgery, adjuvant therapy after surgery and so on. However clinical investigative staging may not be correct, leading to avoidable morbidity of surgery.

Objective: Study was done to know relationship between clinical, intraoperative, postoperative staging in women who underwent surgery for cervical cancer.

Material methods: Analysis duration was divided into 4 yearly 7 blocks. During study period 266 women underwent abdominal radical hysterectomy, 15 were for endometrial cancer so, 251 (94.36%) radical hysterectomies for cervical cancer, 13.05% of all cervical cancers cases (stage I A, I B1, II A1) were study subjects.

Results: Cervical cancer cases increased over the years and also operable cases of cervical cancer from 13.33% to 30.00%. However of 251 cases taken for surgery, 28% would not have been for surgery if were known to be of stage which was found intraoperative (preoperative under staging), over staging was only in 2%. Correlating clinical, histopathological staging 36% would not have been for surgery if correct staging (after histopathology) was known pre-operatively. Clinical intraoperative staging had 72% agreement. Histopathological staging which helps in planning treatment agreed with clinical staging in 64%. Problem of under staging continued over years.

Conclusion: With present day techniques available to women with low resources, there is a lot of under staging of cervical cancer cases which leads to unnecessary surgery. Low cost modalities for better evaluation of cases pre-operatively and will help in reducing morbidity, save resources also.

Keywords: Cervical cancer; Radical hysterectomy; Clinical; Final staging

Introduction

Worldwide cervical cancer is the third most common cancer affecting women, in terms of incidence and mortality rates[1,2], however in some parts of the world including India, it is the most common cancer in women [3-5]. Around one sixth to one fifth worldwide cases of cervical cancer occur in India [2-6,7]. It accounts for 280,000 deaths every year [2,8-10]). When cervical cancer is diagnosed, attempts are made to know the right stage for planning best therapy for prevention of mortality and helping in quality life. This is especially important for countries where resources are limited with problems of availability of high cost diagnostics and therapeutics. Also cervical cancer is more in women from low resource countries. Very few women with cervical cancer report at operable stage [11,12] and for those subjected to surgery, intraoperative findings, provide information for continuing surgical therapy or abandoning the procedure or having adjuvant therapy after surgery. Histopathological evaluation of the surgical specimen provides information for determining the final treatment plans and prognosis for an individual patient. Node histopathology is considered to be the most important predictor, after FIGO staging [13-15]. However, sometimes even, non-metastatic cancers with non-enlarged glands have poor outcome than would be expected in advanced stage disease for reasons not very well understood [13]. Also clinical early stage cases may actually turn out to be of advanced stage during surgery or after postoperative histopathology. So the research continues. An attempt was made to study the correlation between clinical, intraoperative and postoperative staging in cases of early stage cervical cancer in women who were planned for radical hysterectomy at the health facility with limited resources.

Methods and Materials

Study was done after taking institute's ethics committee's approval. The analysis of records of cervical cancer cases that were planned for radical hysterectomy over a period of almost 3 decades was done. During the period from April 1984- March 2012, a total 266 women underwent abdominal radical hysterectomy, 15 were for endometrial cancer so, 251 (94.36% of all radical hysterectomies) operable cases (Revised FIGO stage I A to I B1, II A1 [16]) of cervical cancer were the study subjects.

During the period of analysis, of 5, 62,740 admissions at the rural institute in central India (study site), 10,122 (1.79%) cases were of various cancers. Of cancer cases 5734 (56.64%) were in women, 1042
(18.20%) had cancer breast and 2516 (43.87%) had gynecological cancers. A total of 1923 had cervical cancer, (33.54% of cancers in women, 76.43% of all gynecological cancers). Of all cases of cervical cancer 13.05% were planned for radical hysterectomy, study subjects (Table 1).

| Block | Overall GYN. Cancer | Cervical cancer | Radical hysterectomy | Total hysterectomy for cervical cancer | Radical for cervical cancer | Stage With Planned Radical Hysterectomy |
|-------|---------------------|----------------|----------------------|----------------------------------------|----------------------------|----------------------------------------|
|       | No.     | %       | No.     | %       | No.     | %       | No.     | %       | No.     | %       | No.     | %       | No.     | %       |
| A     | 133     | 110     | 82.70   | 31 (30+1*) | 96.77   | 4       | 13.33   | 5       | 16.66   | 21      | 70      |
| B     | 170     | 135     | 79.41   | 19       | 100.00  | 5       | 26.31   | 4       | 21.05   | 10      | 52.63   |
| C     | 182     | 130     | 71.42   | 19       | 100.00  | 5       | 26.31   | 6       | 31.57   | 8       | 42.10   |
| D     | 351     | 286     | 81.48   | 40 (39+1*)| 97.50   | 11      | 28.20   | 10      | 25.64   | 18      | 46.15   |
| E     | 428     | 326     | 76.16   | 41 (38+3*)| 92.88   | 6       | 15.78   | 10      | 26.31   | 22      | 57.89   |
| F     | 604     | 461     | 76.32   | 52 (46+6*)| 88.46   | 12      | 26.08   | 13      | 28.26   | 21      | 45.65   |
| G     | 648     | 475     | 73.33   | 64 (60+4*)| 93.75   | 18      | 30.00   | 20      | 33.33   | 22      | 36.66   |
| Total | 2516    | 1923    | 76.43   | 266 (251+15*)| 94.36   | 61      | 24.30   | 68      | 27.09   | 122     | 48.60   |

*Were done for endometrial cancer so were excluded

Table 1: Block wise Radical Hysterectomy.

For analysis, these 251 cases were divided into 7 blocks of 4 years each (April to March), Block A 1984-1988(30), Block B 1988-1992(19), Block C 1992-1996 (19), Block D 1996-2000 (39), Block E 2000-2004 (38), Block F2004-2008(46) and Block G 2008-2012(64). Results

There was an overall increase in cervical cancer cases. Operable cases also gradually increased (Table 1). The number of planned radical hysterectomies for stage IA increased from 13.33% (4 of the total 31 cases in Block A) to 30.00% (18 of 64 of all radical hysterectomies for stage IA in Block G) (significant difference, \( p<0.005 \)).

In Block A, all 4 women operated for stage IA, (A1,A2) continued to be of the same stage intraoperative and after histopathology of surgical specimen also, 5 cases operated for stage IB1, continued to be of the same stage intraoperative and postoperatively. Of 21 women operated for stage II A1, 19 (90.5%) remained II A1, one was II B and one was IVA intraoperative. In Block B, 19 cases were planned for radical hysterectomy, of which 5 (26.31%) were for stage IA (A1,A2) remained IA, 4 for IB1, one was IIB intraoperative, confirmed histopathologically also and 10 (52.63%) were for stage IIA1, 3 (30%) were IIB during surgery, confirmed by histopathology also and in 2 other cases parametrial infiltration was not diagnosed during surgery but histopathology of surgical specimen revealed presence of disease, so in 5 of 10 (50%) cases of IIA1, it was under staging.

Figure 1: Block A-Distribution of cases with respect to age, parity and staging.
Figure 2: Block B—Distribution of cases with respect to age, parity and staging.

Block B, of 12 (26.08%) of stage IA1, one (8.3%) turned out to be in-situ cancer after postoperative histopathology. Of 13 (28.3%) operated for IB1, one (7.7%) had malignant mixed mullerian tumour (MMMT) and of 21 (45.60%) operated for IIA1 also, one (4.8%) was having MMMT on histopathology of operative specimen (Figures 1-4).

Overall of 251 women who were planned for radical hysterectomy, 61 (21.91%) were operated for stage IA, 68 (27.09%) stage IB1, 122 (48.60%) stage IIA1. On correlating clinical and intraoperative staging, of 55 cases clinically diagnosed as stage IA (A1+A2), 41 (74.54%) remained stage IA intraoperative also, 7 (12.72%) turned out to be IIA1 and 7 (12.72%) IIB. Of 68 women with clinical stage IB1, 53 (77.94%) remained of same stage intraoperative, 11 (16.17%) were IIA1 and 6 (8.82%) IIB. Of 122 cases operated with clinical stage IIA1, intraoperative staging was IA in 3 (2.45%), IB1 in 2 (1.63%), IIA1 in 88 (72.13%), IIB in 24 (19.67%), IIIIB in 7 (5.73%) and 8 (6.55%) had stage IV A disease. So 28% women would not have been posted for surgery if they were known to be, of the stage they were found intraoperative, (clinical under staging of disease), over staging was only in 2 % cases. On correlating clinical, surgical specimen histopathological staging it was revealed that of 55 clinical stage IA, 42 (76.36%) were confirmed as stage IA (A1, A2), 7 (12.72%) were IIA1, 3 (5.45%) were IIB and three were in situ disease (5.45%). Of 68 with clinical stage IB1, 51 (75.00%) were confirmed as IB1, 11 (16.17%) IIA1 and 6 (8.82%) were of stage IIB. Of 122 cases with clinical stage IIA1, the staging was IA (A1, A2) in one, IB1 in two, 74 remained IIA1, 32 were IIB, 4 IIIB, 7 were IV A and two were MMMT. So over all 36% women would not have been opened up for surgery if their staging was known preoperatively.

Discussion

Cervical cancer is seventh in the frequency amongst overall cancers, third most common cancer among women worldwide, with an
All said histopathology of the surgical specimen continues to provide information that is central for final treatment planning and prognosis for an individual patient.

The diagnostic aids make treatment costly which at times is not possible in rural settings like ours and also no diagnostic test today helps in diagnosis of micro metastasis. It was observed that between clinical staging and intraoperative staging, there was agreement in 72%. Histopathological staging which helps in planning the course of treatment agreed with clinical staging in around 64%. Low cost modalities for evaluation will help reducing morbidity and save resources.

Declarations of Interest

The authors report no declaration of interest

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