

Case Series on Late-Stage Presentation of Cervical Cancer in Rural Women

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Abstract

Background: Cervical cancer remains a significant public health burden, particularly in low and middle-income countries. In India, despite the availability of effective screening and treatment, a large proportion of women, especially in rural areas, continue to present with advanced-stage disease. This is primarily due to a lack of awareness, socio-cultural stigma, and limited access to health services.

Methods: This case series includes three women from rural Tamil Nadu who presented to a tertiary care centre with advanced cervical cancer. Detailed clinical presentations, investigations, and treatment outcomes were recorded. Contributing social and logistical barriers were explored through patient history and context.

Results: All three women presented with FIGO Stage IIIB or IVA cervical cancer after months of symptoms, without prior screening or gynaecologic consultation. Factors contributing to delay included lack of awareness, financial hardship, cultural taboos, and geographic inaccessibility. Two patients received chemoradiation, while one was managed palliatively due to poor performance status. All required social support for treatment continuation.

Conclusion: Late-stage cervical cancer among rural women reflects deep gaps in awareness, screening infrastructure, and social support. There is an urgent need for community-based education, organized screening programs, and improved access to affordable care in rural India to reduce morbidity and mortality associated with cervical cancer.

Keywords: Cervical cancer, rural women, late-stage presentation, India, screening, gynaecological health, public health

Introduction

Cervical cancer remains a major public health concern globally and is the fourth most common cancer in women, with an estimated 604,000 new cases and 342,000 deaths in 2020 alone [1]. The burden of disease is disproportionately borne by low- and middle-income countries (LMICs), where approximately 90% of cervical cancer-related deaths occur due to limited access to timely screening, diagnosis, and treatment [1]. In India, cervical cancer is the second most common cancer among women, contributing to nearly one-fifth of the global cervical cancer burden [2]. According to the IARC/ICO 2023 report, the age-standardized incidence rate (ASIR) in India is 18 per 100,000 women, with a mortality rate of 10 per 100,000 [3]. Despite the availability of cost-effective screening methods and curative treatments, the majority of Indian women present with disease at an advanced stage, especially in rural and underserved areas [4].

Several interrelated factors contribute to the late-stage presentation of cervical cancer in rural women:

- Lack of awareness about early symptoms and the importance of screening
- Cultural taboos surrounding gynaecological health
- Low literacy rates and poor socioeconomic status
- Inadequate healthcare infrastructure in rural settings
- Minimal implementation of population-based screening programs [5][6]

Routine screening using Pap smear, VIA (Visual Inspection with Acetic Acid), or HPV DNA testing is known to significantly reduce cervical cancer incidence and mortality. However, in India, screening coverage is estimated to be as low as 22% in urban areas and 16% in rural regions [7]. To address this gap, the National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS) recommends opportunistic screening of all women above 30 years in primary health centres using VIA or Pap smear [8]. However, real-world implementation is suboptimal due to a shortage of trained personnel, low health-seeking behaviour, and fragmented referral systems. This case series presents three women from rural backgrounds who were diagnosed with late-stage cervical cancer, aiming to underscore the urgent need for strengthened screening programs, community awareness, and access to early diagnosis and treatment in rural India.

Case Description

Case 1: Stage IIIB Cervical Cancer in a 52-Year-Old Woman

A 52-year-old postmenopausal woman from a rural area presented with complaints of foul-smelling vaginal discharge, irregular vaginal bleeding, and dull low back pain persisting for five months. She had never undergone cervical cancer screening and initially attributed her symptoms to menopausal changes. Financial constraints and limited health awareness contributed to a delay in seeking medical care. On per speculum examination, a friable, bleeding cervical mass was visualized, and per vaginal examination revealed bilateral parametrial involvement. Pelvic MRI demonstrated a large cervical lesion extending to the pelvic sidewalls but sparing the bladder and rectum, suggestive of FIGO Stage IIIB cervical carcinoma. Histopathological examination of the cervical biopsy confirmed moderately differentiated squamous cell carcinoma.

The patient was initiated on definitive concurrent chemoradiation therapy, consisting of external beam radiotherapy along with weekly cisplatin chemotherapy. With the support of social welfare services, facilitating transport and treatment costs, she completed the prescribed course. On subsequent follow-up, she demonstrated a partial response to therapy and is currently being managed under palliative care for symptom relief and quality-of-life improvement.

Case 2: Stage IVA Cervical Cancer in a 60-Year-Old Widow

A 60-year-old widowed woman from a remote rural area presented with complaints of continuous per vaginal bleeding, lower abdominal pain, and urinary incontinence for the past three months. She had never undergone any gynaecological evaluation or cancer screening and had delayed seeking medical care due to social stigma, limited health awareness, and lack of family support. On examination, a large ulcerated mass involving the cervix and upper vagina was noted. Per vaginal examination indicated extension of the lesion to surrounding structures, and cystoscopy evaluation confirmed tumour infiltration into the bladder base. MRI of the pelvis revealed findings consistent with FIGO Stage IVA squamous cell carcinoma of the cervix.

Given her poor general condition, severe anaemia, and early renal dysfunction, she was deemed unfit for definitive chemoradiation therapy. After counselling, the patient and her family opted for palliative management. She was provided symptomatic relief with analgesics, antibiotics, blood transfusion, and supportive care, and subsequently referred to a local hospice facility for continued palliative management and psychosocial support.

Case 3: Stage IIIB Cervical Cancer in a 45-Year-Old Multiparous Woman

A 45-year-old multiparous woman, mother of five children, from a rural farming community, presented with complaints of heavy vaginal bleeding, pelvic pain, and difficulty walking for the past two months. She had never undergone cervical cancer screening and initially attributed the bleeding to menstrual irregularities. Delay in seeking medical attention was mainly due to her household responsibilities, limited awareness, and poor access to healthcare facilities. On per speculum examination, a friable, exophytic, bleeding mass was observed on the cervix, while bimanual examination revealed bilateral parametrial thickening extending to the pelvic wall. MRI of the pelvis confirmed findings consistent with FIGO Stage IIIB squamous cell carcinoma of the cervix.

The patient was initiated on concurrent chemoradiation therapy, consisting of external beam radiotherapy with weekly cisplatin. She tolerated the treatment well, with manageable side effects. On three-month follow-up, there was partial regression of the tumour, and she continues to be under regular oncological follow-up for further evaluation, symptom management, and maintenance care.

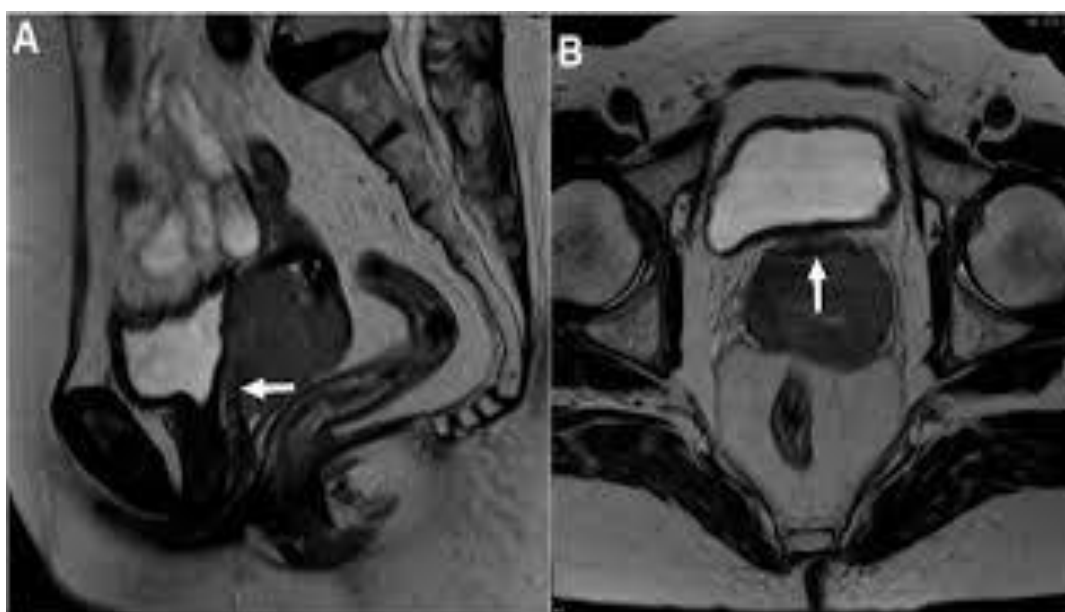


Figure 1: MRI finding of FIGO Stage IIIB squamous cell carcinoma of the cervix.

Discussion

This case series highlights the alarming trend of advanced-stage cervical cancer presentation among rural Indian women, mirroring patterns reported nationally and globally. All three patients were unscreened, symptomatic for several months, and presented at FIGO Stage IIIB or IVA, emphasizing the interplay of poor health awareness, delayed health-seeking behaviour, and inadequate access to screening and diagnostic facilities. These findings are consistent with observations by Ray et al. in rural West Bengal, who reported that over 70% of cervical cancer cases were diagnosed at Stage II or higher due to limited health literacy, social stigma, and financial constraints [9]. Similarly, Basu and Chowdhury noted that more than 80% of rural women had never undergone cervical cancer screening, resulting in late-stage detection [10].

In our series, social stigma surrounding gynaecological complaints, logistical barriers to healthcare access, and lack of organized screening infrastructure were prominent factors contributing to delayed diagnosis. Agrawal et al. also documented similar sociocultural deterrents—including fear of diagnosis, embarrassment, and reluctance to undergo pelvic examinations—as major barriers to screening among rural women [11]. Preventive strategies such as HPV vaccination and routine cervical cancer screening using VIA, cytology, or HPV DNA testing have been strongly advocated by the World Health Organization as cost-effective measures for cervical cancer control, particularly in low- and middle-income countries [12,13]. However, despite national initiatives, India's overall cervical cancer screening coverage remains below 25%, with rural populations being disproportionately underserved, as reported by Bhatla et al. [15].

Evidence from a landmark randomized controlled trial conducted in Tamil Nadu by Sankaranarayanan et al. demonstrated that even a single round of VIA screening could reduce cervical cancer mortality by 31%, underscoring the substantial impact of community-based screening programs [14]. Additional studies by Thulaseedharan et al. and Denny further emphasize that early detection and timely treatment significantly reduce morbidity and mortality associated with cervical cancer [16,17]. Therefore, this case series reinforces the urgent need to integrate cervical cancer screening into rural health programs, enhance awareness through community education, empower frontline health workers such as ASHAs for active screening and follow-up, and establish affordable and accessible diagnostic and treatment pathways. These strategies align with global recommendations outlined by Pimple and Mishra and cost-effectiveness analyses conducted by Mezei et al., which advocate for scalable screening interventions in underserved populations [18,19].

Conclusion

This case series emphasizes the issue of late-stage cervical cancer diagnosis among rural women, mainly due to a lack of awareness, screening access, and socio-cultural barriers. Strengthening primary care services, promoting community-based screening, and increasing health education are essential to enable early detection and improve outcomes in underserved areas.

Conflict of Interest: Nil

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