



## Cervical cancer in women under 25 years old registered in a regional referral hospital: an 18-year evolutive analysis.

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### Abstract

Cervical cancer is the third leading cancer in Brazil and national screening program targets women from 25 to 64 years, with the Papanicolaou (Pap) test as the standard method. A few countries or medical associations recommend the start of the screening at age 21, a policy that remains controversial, for the higher risk of unnecessary treatment and morbidities related. Previous studies reported that 1% of the cases diagnosed before the age of 25, with worse outcomes. The aim of this study is to assess the evolution of cervical cancer cases diagnosed among females younger than 25 years old in a regional hospital and the evolution of the disease. Cases selected were diagnosed from 2001 to 2015 and medical records were analysed until 2018 in a cohort study, gathering 32 cases (1,6% of 2041 cervical cancer registries, only 2 of them under 20 years old). Variables were gathered and analysed considering their relations and temporal evolution, and survival was measured by Kaplan-Meier estimates. There was an increasing trend of cervical cancers ( $p=0,04$ ), with a higher rate of adenocarcinomas (19%) and stage I cancers (56%). Five-year overall survival rate was 76%, with worse rates among females under 22 years old (66% vs. 82%) and adenocarcinomas (43% vs. 86%). Survival rates between stage I cancer were up to 100%, in contrast with 46% observed in advanced stages, with 7 deaths up to 15 months of follow-up. Therefore, although less frequent, cervical cancer in younger females tend to rise; these findings also suggest a higher rate of adenocarcinoma, with worse survival rates in this histological type and in advanced clinical stages.

### Key words:

*cervical cancer, screening, young-onset cancer.*

### Introduction

Cervical cancer develops from well-known precancerous lesions with a slow temporal evolution, allowing the possibility of early detection by screening methods. Brazil's current screening policy is based on cytology-based methods (Papanicolaou/Pap tests) starting on women above 25 years old, after sexual initiation, with an interval of 3 years after 2 consecutive negative, until 64 years old. A few countries start earlier screening, before the age of 25, which is still a controversial topic, for the higher risk of unnecessary treatment and morbidities related, specially concerning obstetric outcomes, such as pre-term birth and low birth weight, despite of worse outcomes, usually presenting in more advanced stages.

Women's Hospital Prof. Dr. Aristodemo Pinotti/CAISM-Unicamp (Campinas, SP, Brazil) is a referral hospital to cervical cancer cases in the National Health System; therefore, there is an opportunity to assess the evolution of cervical cancer rate in women aged under 25 during a long period of time, enabling the understanding of clinical evolution, which could further support changes in the national cervical cancer screening program.

### Results and Discussion

This is a cohort study with 32 females younger than 25 years old, two of them under the age of 20, gathered between 2,041 cervical cancer registries, during the interval of 2001-2015 and followed until 2018. A descriptive analysis was performed using Chi-square tests and Kaplan-Meier survival curves, comparing age

group, histological type and clinical staging using Log-Rank test.

The results obtained from the analysis present an increasing rate of cases between 15 to 24 year-old females over time ( $p=0,04$ ). Adenocarcinomas accounted for 19%, in contrast with 11-14% observed in age groups 25 to 34%. Stage I cervical cancer was the most frequent (56%), while in older women, more advanced stages (II-IV) are more frequently observed (67%;  $p<0,001$ ). Follow-up was possible in 30 cases, demonstrating a 5-year overall survival of 76%, with higher rates on age group 23 to 24 years old (82%) than younger than 22 years old (66%,  $p=0,303$ ), better in squamous cell carcinoma (86%) than adenocarcinomas (43%). 17 stage I diagnosed patients had 100% of survival, in contrast with 46% observed in the group of 13 patients diagnosed in stages II-IV ( $p<0,001$ ). A number of 7 deaths were observed, all of them until 15 months of follow-up after the diagnosis.

### Conclusions

Cervical cancer in women under 25 years old showed an increasing trend over time, although less frequent under 20 years old. There was a bigger proportion of stage I diagnosed cancers and a higher rate of adenocarcinomas in comparison with age group above 35 years old, with 50% less survival rates among adenocarcinomas. One in four cases present worse outcomes and death in 15 months of follow-up, all of them diagnosed in stages II-IV.