

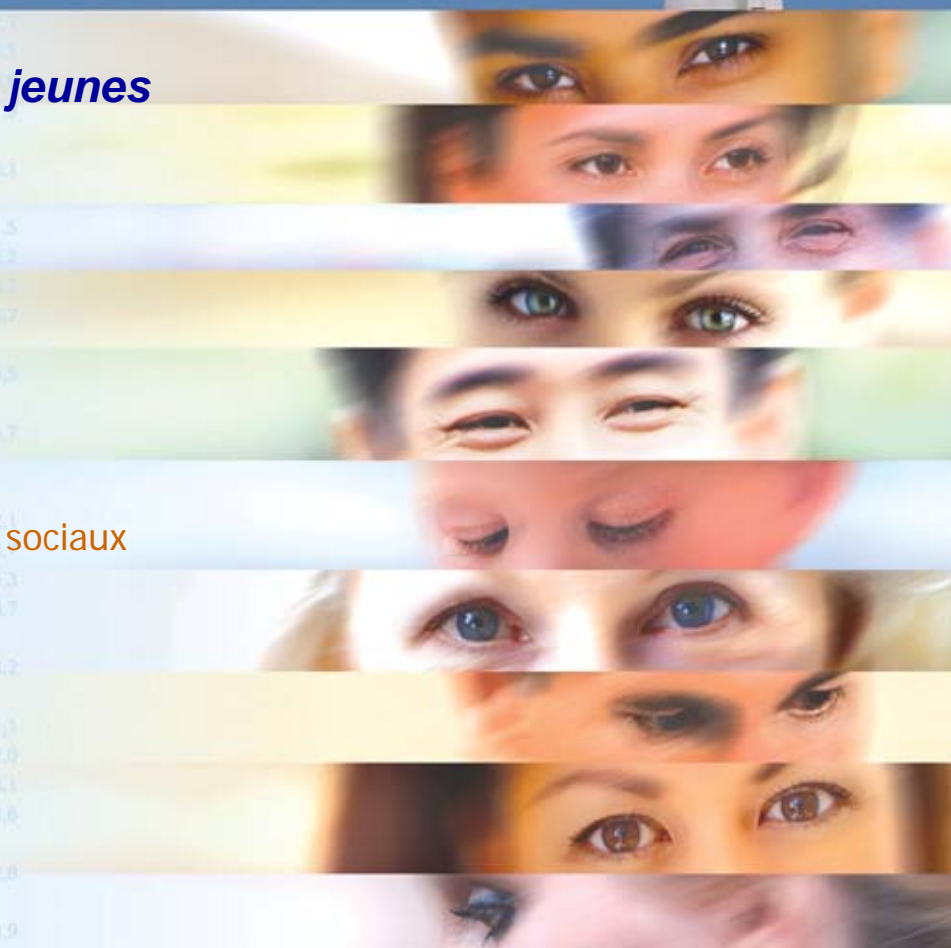


Évolution du cancer de l'utérus chez les jeunes femmes adultes au Québec, 1983 à 2006

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22 Juin 2010





Plan

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Introduction

- Nearly 100 % of cervical cancers are causally associated with the human papillomavirus (HPV)
- Persistent infection with HPV usually precedes cervical cancer
- A quadrivalent HPV vaccine that protects against HPV type 6, 11, 16 and 18 and a bivalent vaccine that protects against HPV 16 and 18 have been approved for use in Canada for females



Introduction

- It has been demonstrated that the HPV vaccine reduces the incidence of cervical precancers
- Increased attention to HPV-associated cancers in light of the recent release of the vaccine
- In Québec, vaccination against HPV started in 2008
- The program targets girls aged 9-17, and the vaccine is given mainly in the school system



Introduction

- High participation to HPV vaccine campaign in Quebec (>80%) may show an effect earlier than expected among the young women
- It becomes important to provide a baseline for monitoring future changes in HPV-associated cancers
- Because of the relation between histology cell type and HPV genotypes included in the vaccine, we will provide this baseline according to histology cell type.



Objective

- We document cervical cancer incidence rates according to histology cell types and age groups among young adult women in Quebec and we compare the trends of those statistics with those of Canada published in 2006



Method: Data sources and selection criteria

- We used cancer incidence data from our population-based cancer registry, the Fichier des tumeurs du Québec (FiTQ)
- FiTQ records cancer cases principally from hospitals which diagnose or treat cancers
- Cancer incidence data were included in our analysis for women aged from 20 to 44 years old diagnosed with cervical cancer (ICD-9 code 180)
- Population data are provided by Ministry of Health in Quebec (Ministère de la santé et des Services sociaux); the Ministry estimates are based on Canadian census



Method: Stratification

- Histology cell types were grouped into 3 categories; squamous carcinomas, including squamous micro invasive carcinomas, adenocarcinomas including the adenosquamous carcinomas, and others
- Squamous cells carcinoma were defined as histology codes 8050-8075, micro invasive was 8076 histology code, adenocarcinomas were 8140-8510, adenosquamous cells were 8560 and 8570 histology codes and all other tumors were classified as “other”
- Cases were grouped into 6 periods (1983-86, 1987-90, 1991-94, 1995-98, 1999-02, 2003-06) and five age-groups (20-24, 25-29, 30-34, 35-39 and 40-44 years old)



Method: Statistical analysis

- For each age group and histology cells type, rate is defined as the number of new cases divided by the corresponding population during the same period
- Age-standardised incidence rates were calculated per 100,000 women
- Rates were age-standardised to the 2001 Quebec general population by direct method using the five age-groups (20-24, 25-29, 30-34, 35-39 and 40-44 years old)



Results: Descriptive summary

- 3552 women 20-44 years old were diagnosed with cervical cancer

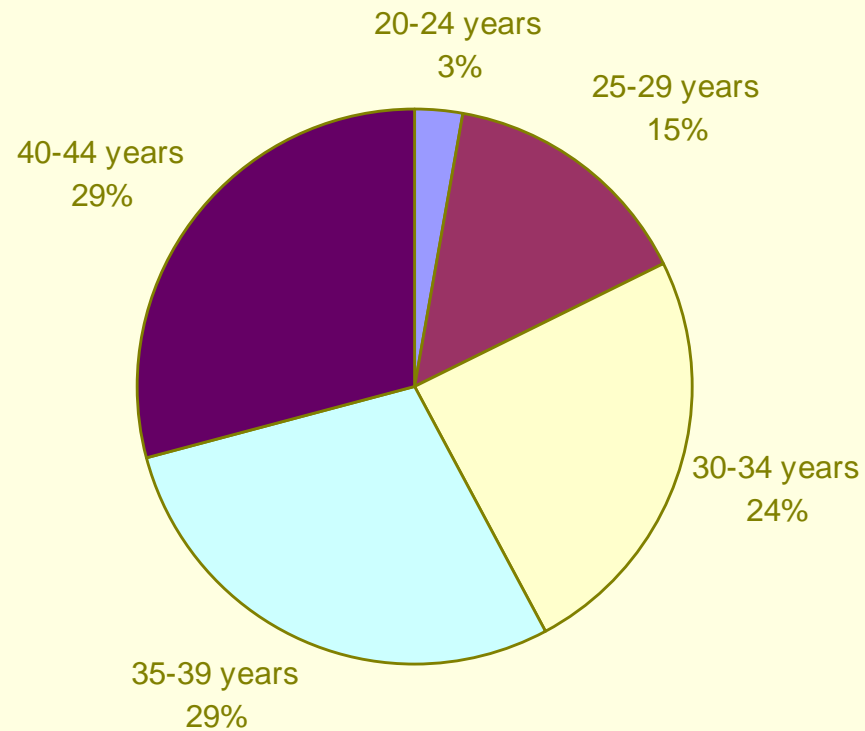
- Those cervical cancers represent 7% of all cancers among women 20-44 years old
 - Second cancer in terms of incidence
 - 5-year-survival at 84% (80 % for squamous and 84 % for adenocarcinoma)
 - First cancer in terms of prevalence

- Of those cervical cancers, 2126 (60%) were squamous carcinomas including the micro invasive and 691 (19%) were adenocarcinomas including the adenosquamous carcinomas



Results : Frequency according to age group

All histology



- Increasing number of cases reported according to age group, for all histology



Results : Incidence rates according to age group

Rates per 100,000 women

| Cervical cancer | 20-24 yr | 25-29 yr | 30-34 yr | 35-39 yr | 40-44 yr |
|--|----------|----------|----------|----------|----------|
| Squamous cells including the micro invasive | 0.6 | 3.7 | 6.6 | 8.7 | 9.4 |
| Adenocarcinomas including the adenosquamous | 0.3 | 1.5 | 2.2 | 2.3 | 3.2 |
| All histology | 1.5 | 7.4 | 11.6 | 13.4 | 14.4 |

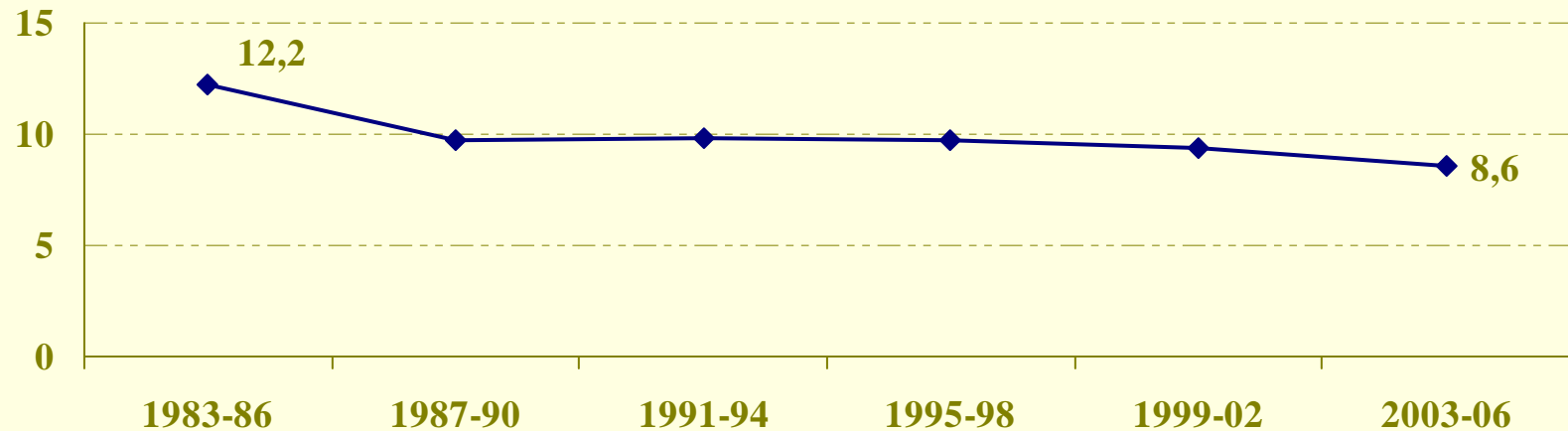
- Squamous cell carcinomas are 3 times more frequent than adenocarcinomas
- Increase of cervical cancer incidence rates by age group in both histology cells



Results: Age-standardised incidence rates

All histology cell types

Rates per 100,000 women



- During the period 2003-06, the age-standardised cervical cancer incidence rate is 8.6 per 100,000 women
- Comparing the 1983-1986 period to the 2003-06 period, the age-standardised incidence rate of invasive cervical cancer has decreased by 30% (from 12.2 in 1983-86 to 8.6 in 2003-06)

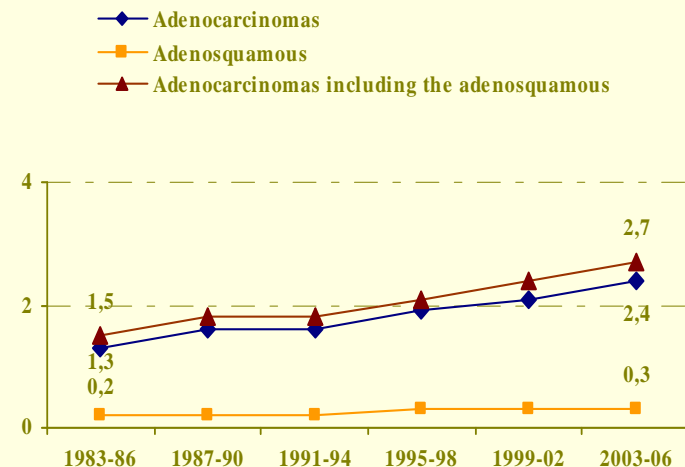
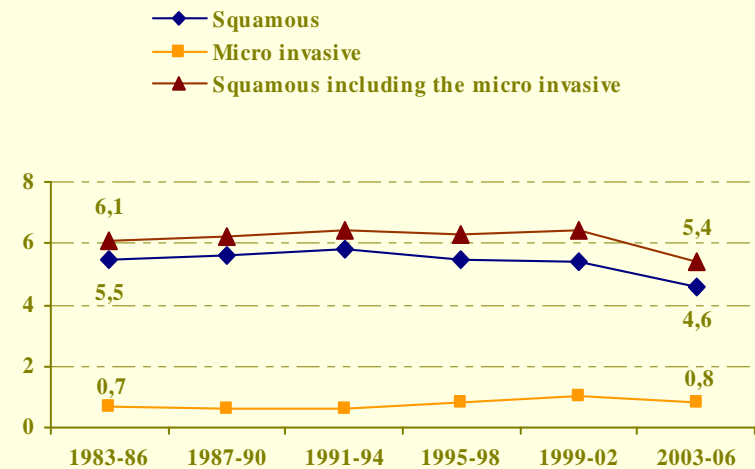


Results: Age-standardised incidence rates

Histology cell types

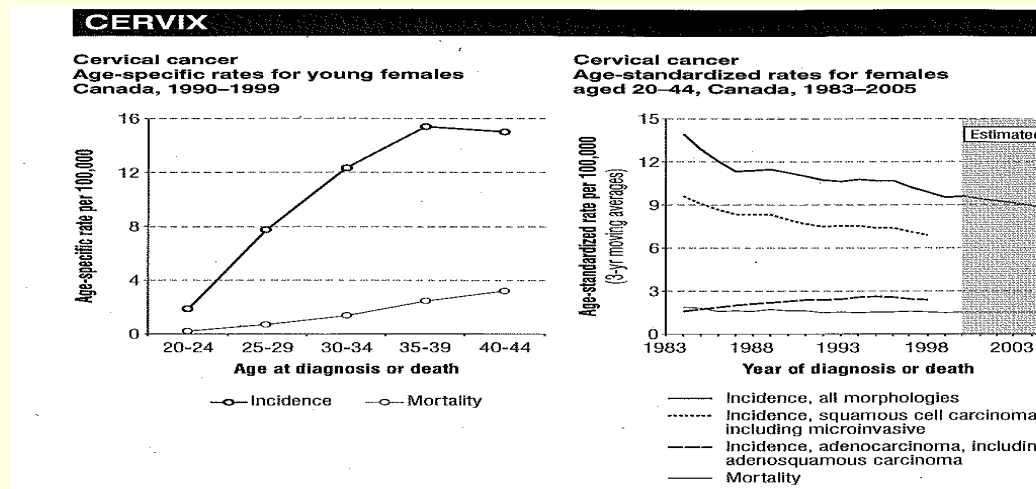
- For squamous carcinomas including the micro invasive, Quebec rates increased by 5% between 1983-86 and 1991-94 followed by a decrease of 16% until the last period of 2003-06
- Little increase in the micro invasive cells type
- For the adenocarcinomas, Quebec observes an increase of 80%
- Little increase in the adenosquamous cells type

Rates per 100,000 women





Cervix cancer incidence rates by histology in young adult women in Canada



Source: Cancer Care Ontario: *Cancer in Young Adults in Canada*, Toronto, Canada, 2006.

- Squamous cell carcinoma accounts for 71% of cancers of the cervix; adenocarcinoma (including adenosquamous carcinoma) accounts for most of the remainder (22%).
- The incidence of squamous cell carcinoma declined significantly over the period of study, adenocarcinoma incidence rose significantly between 1983 and 1995, then fell (at a non-significant annual rate).



Discussion

- In Canada, incidence rates increase by age group, but reach a plateau at age of 35-39 and decrease thereafter
- In Quebec, incidence rates are increasing up to 40-44 years old, no plateau reached
- Cervical cancer incidence rates by age groups are slightly lower in Quebec compared to Canada



Discussion

- As in Canada, Quebec observes a decrease of cervical cancer incidence rates, particularly in squamous cells type during the period 1991-06 and an increase in adenocarcinomas cells type
- Decline in cervical cancer incidence rates is attributable to the decline in cervical squamous cell carcinomas which are essentially reduced due to the wide use of cervical cytology screening which is sensitive for squamous precancerous lesions
- Increase in adenocarcinomas in Quebec may be due to the lack of sensitivity of cytology screening for this cell type



Conclusion

- Cervical cancer incidence rates in Quebec for young women is about 8.6 per 100,000: 5.4 for squamous including the micro invasive cells type and 2.7 for adenocarcinomas including the adenosquamous cells type
- The results obtained in this study will serve as baseline for the measure of the impact of vaccination on cervical cancer incidence rates in the future



Thank you!