HPV Subtyping of Cervical Cancer in Cambodia

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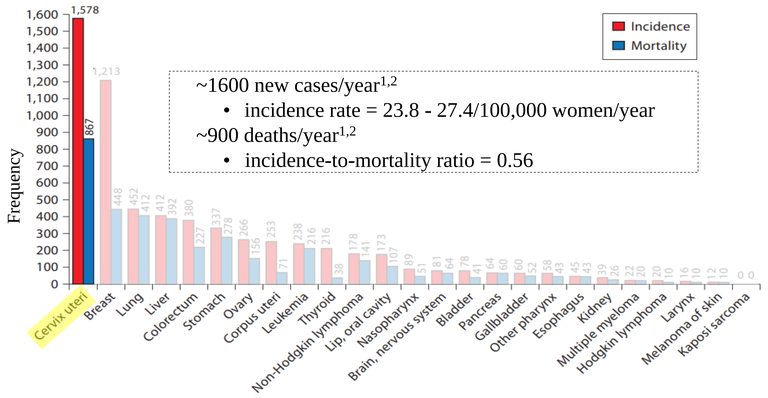
Introduction

- Cervical cancer is the leading cause of cancer mortality among Cambodian women



- Cambodia's first dedicated cancer hospital, the National Cancer Center (NCC), opened in January 2018
- It is unknown which subtypes of human papillomavirus (HPV) pose the greatest oncogenic risk in Cambodia
- This study seeks to better understand which HPV subtypes exist amongst Cambodians who develop cervical cancer

Specific Aim: To determine which subtypes of HPV are represented in a survey of 100 patients with biopsy-proven cervical cancer at the NCC in Phnom Penh

Hypothesis: The HPV-16/18 prevalence rate among cervical cancer cases will be similar to that of countries which have a national HPV vaccination program

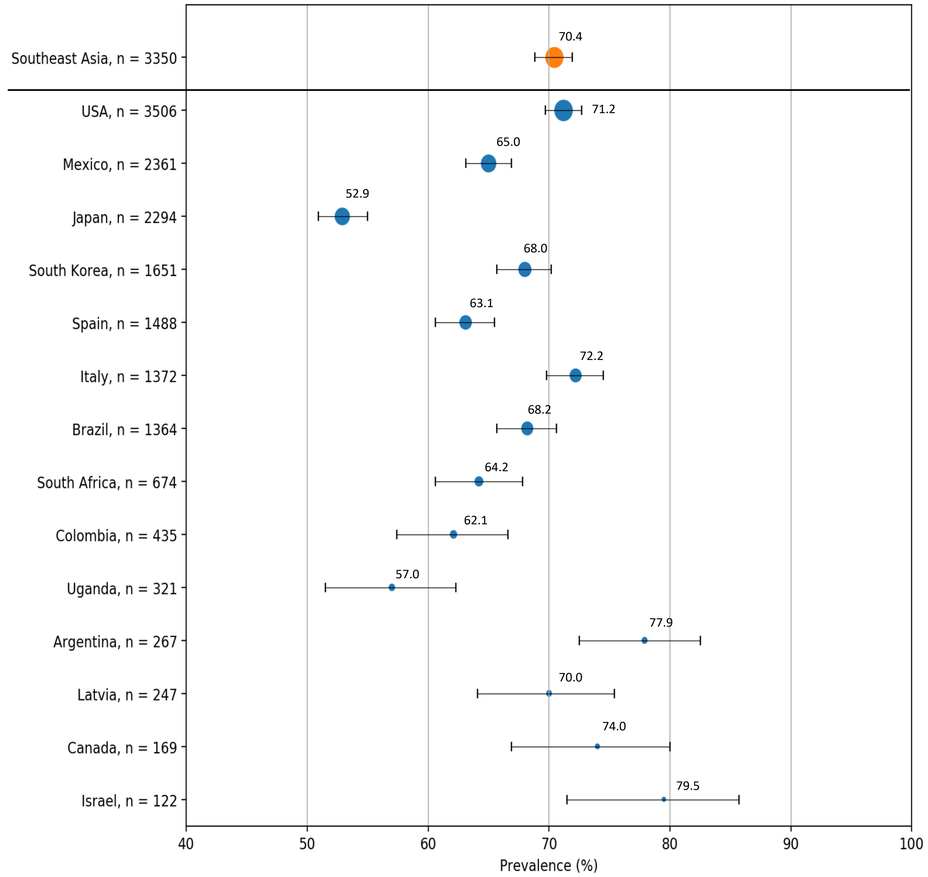
Methods

- Collect 100 cervical cancer specimens from the NCC
  - 50 retrospective samples from pathology archives
  - 50 prospective samples from new patients at Calmette
- Mail tissue samples to the HPV Research Group at the University of Washington for HPV detection and genotyping
- Determine the prevalence of various HPV subtypes
  - Calculate prevalence ratio of non-16/18:16/18 subtypes
- Determine potential associations with clinical factors such as stage, histology, HIV coinfection, age, home province, number of sexual partners, and smoking history

HPV and Comparative Prevalence Rates of Subtypes 16 & 18

- HPV subtypes 16 & 18 cause ~70% of all cervical cancers globally[3]
- Prevalence of HPV subtypes can vary significantly across geographic regions and populations
- Effectiveness of available HPV vaccines (Cervarix and Gardasil) in reducing incidence of cervical cancer within a population depends on HPV-16/18 prevalence within that population
- Studies of other SE Asian countries demonstrate HPV-16/18 prevalence in the region is similar to countries with national HPV vaccination programs (~70%).[4-18]

Comparison of HPV-16/18 Prevalence in Cervical Cancer Cases between SE Asia and Countries with National HPV Vaccination Programs [4-18]



- This pilot study is intended to lead to further epidemiological studies that will aid in Cambodia's efforts to initiate a national HPV vaccination program.

Current Project Status & Anticipated Problems

- Protocol is under review by Cambodia's National Ethics Committee for Health Research
- Calmette Pathology's archives are being reviewed for selection of specimens for retrospective analysis

- Potential difficulty recruiting sufficient number of subjects
- Inconclusive genotyping results due to inadequate quantity of biopsy material
- Possible trouble collecting clinical data for patients due to a language barrier or incomplete medical records

Future Directions

- Start recruiting new subjects for prospective analysis after receiving ethics approval
- Perform HPV detection and genotyping
- Identification of the unique HPV subtypes prevalent in the Cambodian population will have implications for future epidemiological studies and the country's vaccination program

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