Many questions about HPV in people with FA

• <u>Is HPV more common in persons with FA?</u>



- What HPV types are detected in persons with FA?
- What are the mechanism(s), if any, by which HPV alters cancer risk in persons with FA?
- How do we prevent HPV infection in this group?
- How do we treat those that are infected?

HPV prevalence studies in FA

 HPV measurements in "normal" oral samples of persons with FA compared to controls





Melinda Butsch-Kovacic, MPH, Ph.D.

Robin Mueller, RN

2009: FARF Annual Adult FA Meeting; Hilton Garden Inn, Denver, Colorado

2009: FARF Annual Family Meeting; Camp Sunshine, Casko, Maine

2009-2010: FA Comprehensive Care Center; Cincinnati, OH

2010: FARF Annual Family Meeting; Camp Sunshine, Casko, Maine

HPV prevalence in FA patients and their families

- Patients/parents consent to provide samples and info:
 - Buccal brushes, <u>oral rinse</u> and saliva
 - Questionnaire
 - FA complementation group, age, BMT status
- Participants are:

Individuals with a confirmed diagnosis of FA

Related parents and siblings

Normal controls that are unrelated and unaffected

Questionnaires

- smoking and alcohol consumption
- personal/family history of cancer
- HPV testing and vaccination history
- personal sexual history (if any)
- sexual history & known HPV/Pap results of biological mother during/ immediately following pregnancy
- race/ethnicity, education and income levels

Study design

STATUS	N=	Age Mean	Std Dev	Age Min	Age Max
FA	55	17.67	10.77	6	55
Non-FA	54	17.94	10.74	5	53

Study Results

STATUS	Age (yrs)	HPV Types	
FA	6	16,6	
FA	6	16,6	
FA	7	16,6	
FA	10	16,6	
FA	12	16,18,6	
FA	14	16	
FA	20	84	
FA	27	16,6	
FA	32	16,6	
Non-FA	13	16	
Non-FA	18	16,6	



When pirates try to board, FA children have trouble repelling Do pirates leave or stay?

Preliminary conclusions

- HPV is present in a greater proportion of FA individuals over controls
- More HPV types are detected
- Younger patients are affected

New Questions

- What are the mechanism(s), if any, by which HPV alters cancer risk in persons with FA?
- How do we prevent HPV infection in this group?
 HPV vaccination (prevent boarding)
- How do we treat those that are infected?
 Immune stimulation (strengthen ship's crew)
 - Combat viral genes (beat them with their own weapons)

Thanks!!!!!!

Collaborators

Menachem Bitan
Carmem Bonfim
Darron Brown
Stefan Duensing
Denise Galloway
Mi-Ok Kim
Paul Lambert
Maggy Macmillan
Karl Munger
John Wagner
Kathryn Wikenheiser-Brokamp



FACCC

Stella Davies
Paul Andreassen
Melinda Butsch-Kovacic
Beth Hamon
Richard Harris
Ruhikanta Meetei
Parinda Mehta
Robin Mueller
Qishen Pang

Funding

Fanconi Anemia Research Fund
Translational Research Initiative
National Institutes of Health

FA Patients and families

Tissue sample donation
Information
Support