

## Clinical Research– Senior Category

### Best Poster

#### 00188 To Access the Epithelial Proliferations in Juvenile Fibroadenomas Using a Panel of Antibodies to CK5/6, CK14, ER and Ki67.

Mihir Ananta Gudi<sup>1</sup>, Jabel Iqbal<sup>2</sup>, Tan Puay Hoon<sup>2</sup>, Leong May Ying<sup>1</sup>, Lim Swee Ho<sup>1</sup>, Li Huihua<sup>2</sup>, Sudanshi Jain<sup>1</sup>

<sup>1</sup>KK Women's and Children's Hospital, <sup>2</sup>Singapore General Hospital

**Aims:** To compare the epithelial proliferation in juvenile fibroadenomas with that seen in gynaecomastia and ADH (Atypical Ductal Hyperplasia) using a panel of antibodies. To confirm our hypothesis that the epithelial proliferation seen in Juvenile fibroadenomas mirrors that seen in Gynaecomastia and is different from ADH.

**Methodology:** We selected 50 cases each of Juvenile fibroadenomas, Gynaecomastia and atypical ductal hyperplasia from our archives and constructed tissue microarrays of the representative sections from each category. Immunohistochemistry staining for four antibodies namely CK 5/6, CK 14, ER and Ki 67 were performed on each case.

The staining was scored as either positive or negative for (CK 5/6 and CK14), 0-8/8 for ER and percentage score for Ki67. These were compared between the three groups and the following statistical analysis was performed using Median, interquartile range (IQR) and Kruskal-Wallis tests and Fisher's exact tests.

**Result:** Kruskal-Wallis test showed that Ki67 were statistically significantly different among ADH, fibroadenoma and gynecomastia. Further pairwise tests showed that Ki67 level was statistically significantly lower than those in ADH ( $P < 0.0001$ ) and fibroadenoma ( $P < 0.0001$ ). Kruskal-Wallis test also showed that ER score were statistically significantly different among these 3 groups ( $P < 0.0001$ ).

Fisher's exact test showed that the distribution of CK14 and CK5/6 were significantly different in these 3 groups (both  $P < 0.0001$ ). Further pairwise tests showed that more patients had negative CK14 and CK5/6 in ADH compared to fibroadenoma (both  $P < 0.0001$ ) and gynecomastia (both  $P < 0.0001$ ).

**Conclusion:** The epithelial proliferation in Juvenile Fibroadenomas may morphologically look worrying and be difficult to distinguish from ADH / low DCIS. The use of the above panel of antibodies is helpful to make the distinction between the two and hence allay apprehension in a young patient of an over diagnosis of ADH and its implications. The epithelial proliferation in juvenile fibroadenomas mimics that seen in gynaecomastia.