AB012. Impact of down-regulated SK3 expressions in Hirschsprung’s disease patients following pull-through surgery

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**Background:** Some Hirschsprung’s disease (HSCR) patients showed persistent bowel symptoms following an appropriately pull-through procedure. The mechanism is presumed to be down-regulated small-conductance calcium-activated potassium channel 3 (SK3) expressions in the HSCR ganglionic intestines. We aimed to investigate the SK3 expressions impact in HSCR patients after a properly pull-through surgery in Indonesian population, a genetically distinct group within Asia.

**Methods:** We assessed the SK3 expressions in the ganglionic/aganglionic colon specimens of HSCR patients and the control colon specimens using quantitative real-time polymerase chain reaction (RT-PCR).

**Results:** We ascertained ten HSCR patients and five controls. Quantitative RT-PCR showed that the SK3 expressions were significantly lower (64-fold) in the aganglionic colon group compared to the control group, 10.9±4.6 vs. 4.9±3.6, respectively (P=0.025). The expression of SK3 in the ganglionic colon group was also lower (21-fold) compared to the control group, 9.3±5.8 vs. 4.9±3.6, respectively, which did not reach a significant level (P=0.145).

**Conclusions:** Our study shows that the down-regulated SK3 expressions in ganglionic intestines might contribute to the persistent bowel symptoms following a properly pull-through surgery in HSCR patients. Furthermore, this study is the first report of SK3 expressions in a sample population of Asian ancestry.

**Keywords:** Hirschsprung’s disease; Indonesia; SK3; down-regulate; persistent bowel symptoms; expression

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