P1-193 Characterization of prostanoid receptors present on adrenergic neurons of porcine uterine longitudinal muscle

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We have already demonstrated that cyclooxygenase-prostaglandins (PGs) pathway regulate the spontaneous contractility of porcine uterus through prostanoid receptors. However, location of the receptors (neuron or muscle) is less clear. In this study, presence of neural prostanoid receptors was examined using [^{3}H]-noradrenaline (NA)-loaded porcine uterus. Electrical field stimulation (EFS, 50V 0.5ms duration, 10Hz for 30s) evoked [^{3}H]-NA release which was abolished by tetrodotoxin, ω-conotoxin or Ca^{2+}-free (EGTA), indicating the neural origin of [^{3}H]-NA release by EFS. PGE_2 and $PGF_{2\alpha}$, but not PGD_2, inhibited the EFS-evoked [^{3}H]-NA release. Of selective prostanoid receptor agonists examined, U46619 (TP) and sulprostone (EP_3) were effective to decrease the EFS-evoked [^{3}H]-NA release, while fluprostenol (FP), BW245C (DP) and butaprost (EP_2) did not change the [^{3}H]-NA release by EFS. These results indicate that neural prostanoid receptors (EP_3 and TP) that regulate NA release are present on adrenergic neurons of porcine uterine longitudinal muscle. Acknowledgement: this work was supported by a grant-in-aid for JSPS fellows from the Ministry of Education, Science, Sports and Culture of Japan.