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Autonomic, Neurovascular Mechanisms in Migraine

To the Editor:

Dr Alpert raises some important anatomic and physiologic points in his editorial on migraine headaches and patent foramen ovale that may have widespread pathophysiologic application.[1]

The prevalence of migraine in adolescents with "endometriosis" is 70%.[2] At laparoscopy this group of young women have fusion of the rectum and vagina, hyperplasia of the uterosacral ligaments, extensive adhesions, etc These are anatomic features associated with "co-ordinate" straining at stool which injures branches of sympathetic segments T10-L2, that are the hallmark of "endometriosis" and many other pelvic conditions.[3] ("Incoordinate" straining at stool may injure sympathetic segments T1-T9 causing other non-communicable diseases). Treatment of the "endometriosis" by reducing pelvic blood flow with progestagens frequently improves the migraines suggesting a role for viscero-visceral reflexes?[4]

As to the significance of patent foramen ovales, Dr Alpert draws attention to right to left shunts during Valsalva manoeuvres, and, the large right-to-left shunts in divers that may precede migraines.[5] Without any specialist knowledge, I suggest that specific patterns of dilatation, or hypertrophy, of the right atrium may impinge on the cardiac plexus producing neurocardiac reflexes and ensuing migraines. Stretching autonomic nerves causes many symptoms in obstetrics and gynecology (e.g. pelvic pain, vulval pain, PMS, PMDD; uterorenal, hepatorenal and lienorenal reflexes in preeclampsia and its "variants" e.g HELLP syndrome), and, may do so at other extrapelvic sites.

Clinical inquiries in women with persistent migraines might include their bowel habits, reproductive careers and other possible sources of autonomic injury.

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