A Case of Optivol Alert Caused by Premenstrual Syndrome

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Recent studies suggest that intrathoracic impedance may be a useful parameter to track daily changes in the pulmonary fluid status. Optivol index™, which was fluid status algorism calculated from intrathoracic impedance, may detect impending fluid accumulation. However, intrathoracic impedance was likely to change in various situations, such as pneumonia, pneumothrax or hemodialysis. We experienced the patient in whom intrathoracic impedance changed along with menstrual cycle. A case was 35-year-old female implanted cardiac resynchronization therapy with defibrillator (CRTD). She was followed in outpatient clinic and remote monitoring system. We received Optivol alert™ once a month and often asked her to come to the hospital to examine if she developed to heart failure. However, she has never developed to heart failure, pneumonia or other diseases. After several Optivol alerts™, she noticed that the Optivol alert™ was appeared just before menses. And intrathoracic impedance was going down 2 weeks before her menses. We could repeatedly observe that Optivol alert™ was appeared during Premenstrual Syndrome (PMS), which was reported to cause fluid retention. In some report, volume dysregulation is caused by PMS, but is not demonstrated directly. Then, this is the first report that fluid retention in PMS was directly estimated by changing of intrathoracic impedance and Optivol index™.

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