

Case #1015: A Case Study Evaluating the Effects of Indole-3-Carbinol (I3C) with Rosemary Leaf Extract on Estrogen Metabolism

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PURPOSE

The purpose of this study was to assess the effectiveness of a nutritional supplement containing I3C and rosemary leaf extract on promoting healthy estrogen metabolism. In particular, this study examined the influence of this nutritional supplement on the conversion of estrogen to the protective 2-hydroxyestrone (2OHE) metabolites compared to the more potent 16 α -hydroxyestrone (16OHE) metabolites, which may influence the health of breast tissue.

PATIENT'S PRESENTATION AND HISTORY

A 57-year-old female presented for follow-up to her post-quadrantectomy and lymph node dissection, which was done 2 months prior to presentation. The patient was healing well and there was no evidence of further disease; however, previous laboratory tests had shown a low ratio of 2OHE to 16OHE. She reported having hot flushes, for which she was taking black cohosh. The patient's history included a cholecystectomy and hysterectomy, as well as hypertension. She also had a family history of cancer and arthritis.

Patient's Objective Information

- High MSQ* Score and low PCS[†] score, suggesting the presence of physical symptoms
- Low 2OHE/16OHE ratio, indicating the need for improved estrogen metabolism
- Prescriptive medications and supplements included atenolol (50 mg/qd); levoxyl (0.112 mg/qd); multivitamin (qd); vitamin C (1000 mg/qd); vitamin B₁₂ (1000 mcg/qd); vitamin B₆ (100 mg/qd); vitamin E (400 IU/qd); black cohosh (bid).

PLAN AND RESULTS

The patient was instructed to:

- Begin taking I3C with rosemary leaf extract (150 mg/50 mg), 1 bid with food
- Continue taking medications and other supplements

8 Weeks after Starting the I3C and Rosemary Leaf Extract Supplement

After 8 weeks, the patient reported feeling very well. She noted having fewer hot flushes and said her attitude had improved. Her MSQ and PCS scores had normalized. Moreover, the patient's 2OHE levels had increased nearly two-fold, thus increasing her 2OHE/16OHE ratio to within reference range. This result indicated a substantial improvement in estrogen metabolism.

Figure 1. After 8 weeks, the patient's MSQ* score decreased from 48 to 8 (reference range: 30 or below = few or low intensity symptoms). The result suggests a considerable improvement in general physical symptoms with the I3C and rosemary leaf extract supplement.

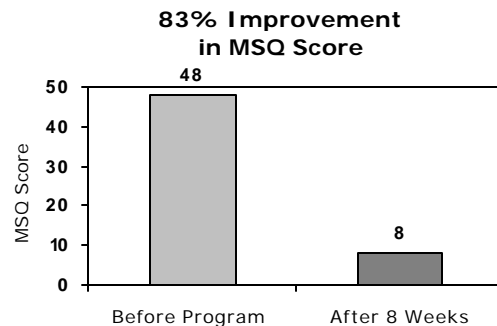


Figure 2. The patient's PCS[†] score increased from 26.9 to 54.2 over the 8-week period (reference range: 50 or above = healthy function). This result suggests a notable improvement in the patient's physical symptoms with use of the I3C and rosemary extract supplement.

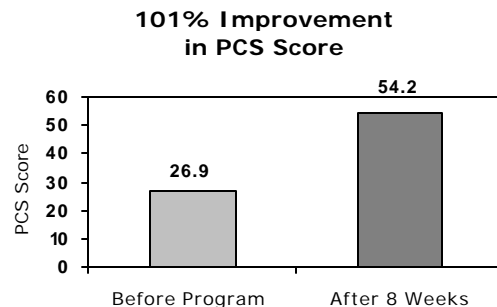


Figure 3. After 8 weeks, the patient's 2OHE levels increased nearly two-fold, from 91 to 169 (reference range: 59 - 363 pg/mL). This result suggests a marked increase in the protective 2OHE metabolite with use of the I3C and rosemary leaf extract supplement.

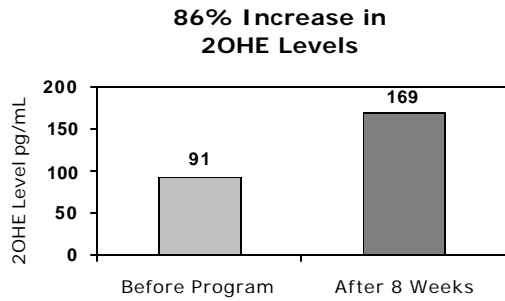
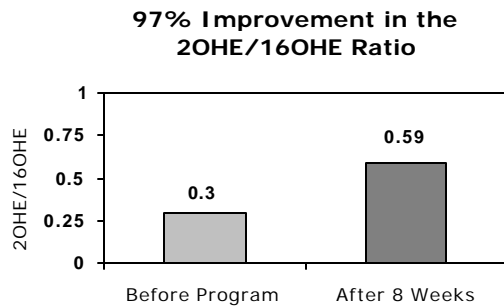


Figure 4. The patient's 2OHE/16OHE ratio increased from 0.30 to within reference range at 0.59 over the 8 week period (reference range: 0.40 - 1.40). This result suggests a substantial improvement in estrogen metabolism with the incorporation of the I3C and rosemary leaf extract supplement.



SUMMARY

This case study suggests that nutritional support for estrogen metabolism using I3C results in an improved 2OHE/16OHE ratio. An improved 2OHE/16OHE ratio has been associated with enhanced breast health.

NOTE

The information provided in this case study describes the results of one patient under the care of a licensed healthcare practitioner and may not be a typical response.

* The Medical Symptoms Questionnaire (MSQ) is a clinical tool for the evaluation of general physical symptoms. Total scores above 75 are generally associated with substantial symptomatology and disability; scores below 30 generally indicate few or low intensity symptoms .

†The Medical Outcomes Survey SF-36 is a well-validated general quality-of-life questionnaire that summarizes health outcome in two reliable reproducible scores: the Physical Component Summary (PCS) and the Mental Component Summary (MCS). Scores of 50 or higher are associated with healthier individuals, whereas scores lower than 50 indicate compromised functioning.

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