

9-cis retinoic acid promising for lymphedema prevention

September 26 2016

(HealthDay)—Treatment with 9-*cis* retinoic acid (RA) has potential as a preventative agent for postsurgical lymphedema, according to an experimental study published in the August issue of the *Annals of Surgery*.

Athanasios Bramos, M.D., from the Keck School of Medicine of the University of Southern California in Los Angeles, and colleagues induced lymphedema in the right hind limb following a single fraction of radiation, popliteal lymphadenectomy, and lymphatic vessel ablation in mice. Postoperatively, mice were randomized to receive daily intraperitoneal injections of an oil-based vehicle solution (control) or 9-*cis* RA dissolved in vehicle solution.

The researchers found that postsurgical lymphedema was seen in 89 percent of cases following the combined injury protocol. Less early postsurgical edema was seen in 9-*cis* RA-treated animals, and they also had significantly less paw lymphedema at all time points compared with vehicle-treated animals (P lymphatic drainage was seen for RA-treated animals, and they had increased lymphatic vessel density).

"Treatment with 9-*cis* RA is associated with increased lymphatic clearance and lymphangiogenesis," the authors write. "Because 9-*cis* RA (alitretinoin) is already approved for clinical use by the U.S. Food and Drug Administration for other conditions, it has the potential to be repurposed as a preventative agent for postsurgical lymphedema in humans."

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Citation: 9-cis retinoic acid promising for lymphedema prevention (2016, September 26)
retrieved 10 April 2024 from
<https://medicalxpress.com/news/2016-09-cis-retinoic-acid-lymphedema.html>

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