

Losing weight lowered levels of proteins associated with tumor growth

July 14 2016

Overweight or obese women who lost weight through diet or a combination of diet and exercise also significantly lowered levels of proteins in the blood that help certain tumors grow, according to a Fred Hutchinson Cancer Research Center study published July 14 in *Cancer Research*, a journal of the American Association for Cancer Research.

Two study leaders - Dr. Catherine Duggan, principal staff scientist in the Public Health Sciences Division, and Dr. Anne McTiernan, cancer prevention researcher in the Public Health Sciences Division and the article's senior author - are available to provide details on the study and its implications.

The study:

- Measured three proteins that are known to enhance tumor-related angiogenesis - the formation of blood vessels that feed tumors and enable them to grow.
- Was intended to see how cancer-promoting proteins changed when overweight, sedentary, postmenopausal women lost weight through diet or diet and exercise over the course of a year.
- Enrolled 439 healthy women (they did not have cancer), placing each participant in one of four study arms:
 - Calorie- and fat-restricted diet.
 - Aerobic exercise five days a week.
 - Combined diet and exercise.
 - Control (no intervention).

- Found that women in the diet arm and the [diet](#) and exercise arm lost more weight and had significantly lower levels of angiogenesis-related proteins, compared with [women](#) in the exercise-only arm and the control arm.

The authors said that it is known that being overweight and having a sedentary lifestyle are associated with increased risk for developing certain cancers, but the reasons for this relationship are not clear.

This study shows that weight loss may be a safe and effective way to improve the "angiogenic profile" of healthy individuals, meaning they would have lower blood levels of [cancer](#)-promoting proteins. Although the researchers cannot say for certain that this would impact the growth of tumors, they believe there could be an association between reduced [protein](#) levels and a less favorable environment for tumor growth.

Provided by Fred Hutchinson Cancer Research Center

Citation: Losing weight lowered levels of proteins associated with tumor growth (2016, July 14) retrieved 3 May 2024 from

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