Ten years after stroke caused by a ruptured aneurysm of the brain, surviving patients have persistent difficulties in several areas affecting quality of life, reports a study in the March issue of *Neurosurgery*, official journal of the Congress of Neurological Surgeons.

The long-term impact of ruptured aneurysms causing subarachnoid hemorrhage (SAH) highlights the need for "survivorship care plans" comparable to those made for long-term cancer survivors, according to the report by Ann-Christin von Vogelsang, MSN, PhD, and colleagues of Karolinska University Hospital, Stockholm, Sweden.

**Quality of Life Ten Years after Ruptured Aneurysm**

The researchers performed a long-term follow-up study in 217 patients who had survived SAH caused by a ruptured aneurysm. Subarachnoid hemorrhage is a life-threatening type of stroke in which there is bleeding into the brain. It most commonly occurs when an aneurysm—a weak spot in one of the blood vessels supplying the brain—ruptures or breaks.

Approximately ten years after treatment for ruptured aneurysm and SAH, the patients completed a questionnaire evaluating key areas of health-related quality of life. Responses were compared with a general population sample of similar age and sex.

The aneurysm survivors were 154 women and 63 men, average age 61 years. Most underwent surgery for treatment for their ruptured aneurysm. At ten years’ follow-up, 30 percent rated themselves as "fully recovered."

But compared to the general population, the SAH survivors had increased problems in four out of five dimensions of quality of life: mobility, self-care, usual activities, and anxiety/depression. (The only area that wasn't significantly worse was pain/discomfort.) On a 100-point scale, overall quality of life score averaged 71 for the aneurysm survivors, compared to 78 for the general population group.

Patients who were more disabled after their SAH had lower quality of life scores at follow-up, as did those who rated themselves as less than fully recovered. Patients with other (comorbid) health problems also had more difficulties affecting quality of life.

**Survivors of SAH Need Long-Term Follow-Up and Support**

Ruptured aneurysm leading to SAH is a potentially life-threatening condition. Patients who survive this serious form of stroke are at risk of physical disability and depression. Previous studies have evaluated quality of life for survivors of ruptured aneurysm, but few have looked at outcomes more than five years after the event.

One recent study suggested that patients may show continued improvement even more than a decade after SAH. Quality of life is increasingly regarded as an important factor affecting patient outcomes.

The new findings show that survivors of ruptured aneurysm have decreased quality of life and an increased rate of health problems. "The implications for health care from our study are that aneurysmal SAH patients need to be followed up and that support needs to be provided long term after the onset," Dr. von Vogelsang and colleagues write. Unrealistic expectations of recovery may be a key issue.

They believe that patients who have experienced a ruptured aneurysm might benefit from survivorship care plans, similar to those used for long-term
cancer survivors. "A survivorship care plan aims to inform the patient of long-term effects, to identify psychosocial resources in their community, and to provide guidance on follow-up care, prevention, and health maintenance," Dr. von Vogelsang and coauthors add. They call for further research on how best to provide follow-up and support for SAH survivors, including studies to explore patients' expectations for recovery.

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