INTRODUCTION: Cerebral spinal fluid (CSF) rhinorrhea is an infrequent cause of rhinorrhea. Spontaneous CSF leaks were originally reported as 3% of the total cases of CSF leaks however, recent studies suggest that closer to 1/3 of CSF leaks are spontaneous.

CASE REPORT: A 57-y/o woman was referred for evaluation of 1 year of rhinitis. The patient reports a constant postnasal and anterior rhinorrhea. Copious amounts of clear fluid drains from her nose, greater from the left nare with no diurnal variation. Medications including nasal steroids, saline washes, antihistamines, and leukotriene modifiers have not relieved her symptoms. She denies itching, sneezing, congestion or ocular symptoms. She denies difficulty breathing, but has a rare cough with the postnasal drip. There are no triggers for her symptoms including worsening with eating or exposure common indoor allergens, irritants or environmental changes. Positional changes affect the drainage most. She denies any fever, hearing or vision changes, or trauma.

PMH: Childhood asthma, hypertension, poorly controlled diabetes, dyslipidemia and obesity. She has a 10 year history of daily migraines partially relieved with NSAIDs, resulting in a diagnosis of hemicrania continua. CT scan of the head 4 years ago was normal. Physical exam is notable for obesity with a BMI of 41.3. Nasal exam: boggy, edematous nasal turbinates with clear rhinorrhea. Skin testing to aeroallergens was negative. In clinic, the patient was able to produce a large amount of the nasal fluid on demand. Beta-2-transferrin testing on the collected fluid was positive, confirming the diagnosis of CSF leak. MRI with cisternography revealed a left sphenoid sinus mass consistent with an encephalocele. The patient was seen by neurosurgery and surgical repair relieved both the rhinorrhea and headaches. Discussion: Beta-2-transferrin has replaced glucose and electrolyte studies of samples due to increased specificity and sensitivity. Studies suggest female gender, obesity and being middle aged as risk factors for developing spontaneous CSF leak. CSF leaks in these patients may be an end result of benign intracranial hypertension (pseudotumor cerebri). Conclusion: Beta-2 transferrin evaluation of nasal secretions should be considered in middle aged, obese female patients with rhinorrhea that have a poor response to pharmacotherapy.