Thirty subjects with idiopathic normal pressure hydrocephalus (iNPH) underwent both CBF SPECT and MRI. After normalization, voxel-wise two-sample t tests between patients and 11 normal controls were conducted to compare the regional alteration in the gray matter density and regional cerebral blood flow (rCBF).

The rCBF reduction and the gray matter decrease were seen in almost similar regions surrounding Sylvian fissure, the left parietotemporal region and frontal lobes, whereas they did not find rCBF increase at the top of the high convexity, where the increase of the gray matter density was the highest ($p < 0.05$).

This study showed regional associations and dissociations between the relative gray matter density and rCBF in patients with iNPH [1)].

1)
Takahashi R, Ishii K, Tokuda T, Nakajima M, Okada T; SINPHONI-2 Investigators. Regional dissociation between the cerebral blood flow and gray matter density alterations in idiopathic normal pressure hydrocephalous: results from SINPHONI-2 study. Neuroradiology. 2018 Sep 30. doi: 10.1007/s00234-018-2106-1. [Epub ahead of print] PubMed PMID: 30269153.