**Supplementary material 2.**

Clinical neuroradiology reports of structural brain imaging scans (21 Magnetic resonance imaging and 42 Computed tomography) performed in the subacute phase of stroke were elaborate by expert neuroradiologists and collected for each patient to localize the brain stroke lesions and classify them in one of the following brain regions: frontal, parietal, temporal, occipital lobe, insula and subcortical structures (including thalamus, striatum, and internal capsule) by means a binary code (presence or absence of lesion in a specific brain region). Then, the percentage of the distribution of brain lesions was computed both for the entire patients’ sample (n= 63) and only for patients’ group with at BR deficits (n= 41). Across the entire patients’ sample, patients showed lesions mainly involving subcortical structures (58.7%) and the frontal lobe (58.7%), less frequently they showed lesions that involved the temporal lobe (31.7%), the parietal lobe (26.9%), the occipital lobe (7.9%), and the insula (7.9%).

Moreover, considering only patients with ‘pure’ deficit in BR, they showed lesions mainly involving subcortical structures (73%). At the cortical level the lesions mainly involved the temporal lobe (31%), and. the parietal lobe (26%), whereas less frequently were involved the frontal lobe (16%); the occipital lobe (15%) and the insula (15%). As regards body semantics, 75% of patients reporting significant lower scores only on the Object-Body Part Association Task had brain lesions involving subcortical structures, 25% of them reported lesions involving the frontal lobe, and 12% of them reported brain lesions involving the parietal, temporal, occipital lobe and the insula; as regards body structural representation, 67% of patients reporting significant lower scores only. on the FBE Task had brain lesions involving subcortical structures and the temporal lobe, 50% of them had brain lesions involving the parietal lobe, 33% of them had brain lesions involving the occipital lobe, and 16% of them had brain lesions involving the frontal lobe and the insula; and as regards body schema, 83% of patients reporting significant lower scores only on the Hand Laterality Task had brain lesions involving subcortical structures, 17% of them had lesion involving the frontal, parietal, temporal lobe and the insula, and none of them had lesion involving the occipital lobe.

Additionally, to verify if lesions of the considered brain regions (frontal, parietal, temporal, occipital lobe, insula and subcortical structures) were significantly more frequent in patients with ‘pure’ deficits in BR compared to those without ‘pure’ BR deficit, we performed Chi square test. No significant difference between patients with and without a ‘pure’ BR deficit were found (Chi square test *P* ≥ 0.103). Furthermore, we performed a Chi square test to identify if patients with a ‘pure’ deficit of one of the three BRs (i.e. body schema, body structural representation, or body semantics) had a greater involvement of particular brain regions compared to patients without a ‘pure’ BR deficit. Results showed that as regards body schema and body semantics, there were not significant differences in the damage of the considered brain regions (body schema: Chi square test *P* ≥ 0.404; body semantics: Chi square test *P* ≥ 0.211); whereas as regards body structural representation, patients with a ‘pure’ deficit in this BR had a significant greater involvement of the parietal (Chi square test *P* = 0.018) and temporal lobes (Chi square test *P* = 0.031).

This finding on the body structural representation is consistent with previous studies on brain damaged patients showing that deficit in processing the spatial relation among body parts (body structural representation) was more frequent after lesions of temporal (Schwoebel & Coslett, 2005; Di Vita et al., 2019) and parietal (Guariglia et al., 2002; Di Vita et al., 2019) regions; they are also in line with previous studies on healthy individuals (Corradi-Dell’Acqua, Hesse, Rumiati and Fink, 2008; Spitoni et al., 2013; Urgesi, Calvo-Merino, Haggard, & Aglioti, 2007) showing that body structural representation would be processed by a cerebral network mainly located in the temporal and parietal regions. Although our findings provide some preliminary interesting information, they should be interpreted with caution and should be further corroborated by neuroimaging studies using a voxel-wise approach to lesion analysis (e.g. the Voxel Lesion Symptom Mapping, VLSM; Bates et al., 2003).

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