CO09-002-e
Language screening test in the acute phase of post-stroke aphasia associated with clinical outcome
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Introduction
The individual prognosis of aphasia recovery remains difficult to establish initially. The aim of this study was to determine whether some components of language evaluated in the acute phase of stroke could be prognosis factors for aphasia recovery, and if these components could predict the clinical pattern of aphasia in the chronic phase.

Materials and methods
We included all consecutive right-handed patients with aphasia, after a first stroke, confirmed by imagery, left hemisphere injured, without dementia. Assessment was performed at the acute phase: Language Screening Test (LAST) and Aphasia Severity Rating Scale (ASRS) of the Boston Diagnostic Aphasia Examination (BDAE). Three months after: LAST, ASRS and BDAE and good recovery from aphasia was defined as an ASRS score of 4 or 5.

Results
Twenty-eight patients (30–89 years) were included from November 2013 to February 2014. LAST total, LAST receptive and expression index, item order execution and naming and ASRS were significantly associated with good recovery at 3 months (Mann-Whitney; P < 0.05). Expression index was significantly associated with good recovery (OR = 2.2; CI95%: 1.2–3.8; P < 0.001) in a multivariable analysis including receptive index and expression index, and also including expression index and ASRS in the acute phase. Naming, order execution, picture recognition, word repetition and automatic speech items of LAST (acute phase) and BDAE (3 months after) were correlated (Spearman and Mann-Whitney; P < 0.05).

Discussion
These results underline the importance of tests in the acute phase of post-stroke aphasia.

Disclosure of interest
The authors have not supplied their declaration of conflict of interest.

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Intra- and inter-raters reliabilities of a stepped clinical assessment of chronic spastic paresis in adults
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Objective
To determine intra- and inter-raters reliabilities of a stepped clinical assessment in chronic spastic paralyse for upper and lower limbs in adults.

Methods
Eighteen adult subjects (age: 50 ± 14 years; men: 21%) with upper and lower limbs chronic hemiparesis were evaluated by four raters (3 PMR, 1 physiotherapist, age 47 ± 11 years; experience in spastic paresis 14 ± 9 years). This assessment involves performing a passive muscle stretch at 2 velocities, very slow and very fast, followed by an active maximal movement by the patient against the tested muscle and then a 15-second series of active movements of maximal amplitude of which only the last one is measured. Eight muscles were tested: shoulder extensors, elbow flexors, wrist flexors, flexors fingers, gluteus maximus, rectus femoris, soleus and gastrocnemii. Five parameters were collected: maximal range of active motion X A, and residual range of motion X A15 (ordinal data).

Results
Before training, both reliabilities improved: intra-rater ICCs, X V1 0.90 [0.68–0.98], X V3 0.84 [0.45–0.96], X H 0.92 [0.68–0.98], X A15 0.80 [0.60–0.89] and inter-raters ICCs, X V1 0.90 [0.72–0.97], X V3 0.83 [0.56–0.95], X H 0.95 [0.87–0.99], X A15 0.95 [0.86–0.98]. After training, both reliabilities improved: intra-rater ICCs, X V1 0.91

CO09-003-e
Quantification of learned non-use of the upper limb after a stroke
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Background
Following a cerebrovascular accident (CVA or stroke), many patients experience learned non-use of the paretic arm (LNUUL). One part of LNU is explained by the fact that the patient moves his trunk forward instead of extending his arm to reach a given object, even though he is capable of extending his arm. This is because using the trunk for this task demands less energy and concentration than using the paretic arm. This phenomenon is known to be detrimental to neuroplasticity and recovery.

Objective
The aim of this study is to quantify this part of learned non-use of the paretic upper limb during a hand-reaching task using 3D movement analysis.

Methods
Thirty-four post-supratentorial stroke participants were asked to reach a cone placed in front of them at 80% of their arm length. The reaching movement was repeated 5 times with the paretic hand, and then 5 times with the less-impaired hand. This sequence was first performed with the trunk free, then with the trunk restrained. Learned non-use of the upper limb (LNUUL) was obtained by the difference of the amount of trunk compensation between the free trunk condition and the restrained trunk condition.

Results
LNUUL was significantly higher for the paretic hand, with individual values ranging from 1 to 43%, and one half of the patients with a LNUUL higher than 15%.

Discussion/conclusion
This quantification of LNUUL may guide upper limb rehabilitation towards more optimal motor recovery avoiding maladaptive trunk compensation and its consequences on neuroplasticity. Considering LNUUL could advance both theoretical and practical knowledge about the recovery of arm use after a CVA.

Keywords
Learned non-use; Assessment; Stroke; Upper limb

Disclosure of interest
The authors have not supplied their declaration of conflict of interest.

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