

1: J Cogn Neurosci. 2005 Mar;17(3):392-406.

Role of the right and left hemispheres in recovery of function during treatment of intention in aphasia.

Crosson B, Moore AB, Gopinath K, White KD, Wierenga CE, Gaiefsky ME, Fabrizio KS, Peck KK, Soltysik D, Milsted C, Briggs RW, Conway TW, Gonzalez Rothi LJ.

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Two patients with residual nonfluent aphasia after ischemic stroke received an intention treatment that was designed to shift intention and language production mechanisms from the frontal lobe of the damaged left hemisphere to the right frontal lobe. Consistent with experimental hypotheses, the first patient showed improvement on the intention treatment but not on a similar attention treatment. In addition, in keeping with experimental hypotheses, the patient showed a shift of activity to right presupplementary motor area and the right lateral frontal lobe from pre- to post-intention treatment functional magnetic resonance imaging (fMRI) of language production. In contrast, the second patient showed improvement on both the intention and attention treatments. During pre-treatment fMRI, she already showed lateralization of intention and language production mechanisms to the right hemisphere that continued into post-intention treatment imaging. From pre- to post-treatment fMRI of language production, both patients demonstrated increased activity in the posterior perisylvian cortex, although this activity was lateralized to left-hemisphere language areas in the second but not the first patient. The fact that the first patient's lesion encompassed almost all of the dominant basal ganglia and thalamus whereas the second patient's lesion spared these structures suggests that the dominant basal ganglia could play a role in spontaneous reorganization of language production functions to the right hemisphere. Implications regarding the theoretical framework for the intention treatment are discussed.

Publication Types:

Clinical Trial

PMID: 15814000 [PubMed - indexed for MEDLINE]

2: Rev Neurol (Paris). 2005 Mar;161(3):299-310.

[Specific remedial therapy in a specialist unit: evaluation of 31 children with severe, specific language or reading disorders over one academic year]

[Article in French]

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INTRODUCTION: Up to 3 percent of the children in France present severe and specific language and/or reading disorders, despite regular remedial therapies. Few studies have measured the effectiveness of treatment administered in a specialist unit. **PATIENTS AND METHOD:** The aims of this study, focusing on children diagnosed as dysphasic and/or dyslexic, were: During the academic year 2001-2002, 31 children (18 dyslexic and 13 dysphasic) were attending school in our unit. The teaching program and intensive speech therapy (3 hours/week) were tailored for each child according to his/her specific disorders. Reading, spelling and numeracy developmental skills of each child were evaluated by appropriate tools at the beginning and at the end of the year. Impairment was defined by measuring the gap between the observed and the expected skills, according to each child's age. Using a self-control method, progress achieved by each child throughout the year was calculated with each tool, in each subject, by subtracting the impairments disclosed at the beginning from those disclosed at the end of the year. Progression was classified within three groups according to the progress normally expected over an academic year (i.e. nine months) from children with no disabilities attending school regularly; a progression fewer than three months was considered as no progression. Uni- and multivariate analyses including age (\leq or $>$ 9), type of pathology (dysphasia/dyslexia), and intellectual quotient (IQ) as covariates was carried out to search for independent prognosticators. **RESULTS:** The entire group demonstrated during the year significant progress for reading ($p = 0.0001$), spelling ($p = 0.0001$) and numeracy ($p = 0.0001$). Nineteen children (61 percent) showed more progress in reading than normally expected over nine months. Out of the remaining 12 children, 10 demonstrated more progress in spelling and/or numeracy than normally expected over nine months. All three reading evaluation tools disclosed a progression although one was less efficient ($p = 0.05$). Multivariate analysis disclosed age ≤ 9 and dysphasia as independent progress prognosticators. **CONCLUSION:** Placement in a specialist unit allows children suffering from severe dyslexia and dysphasia to lessen the gap in reading, spelling and numeracy. The two prognosticators disclosed highlight the importance of early diagnosis (i.e. before nine years old) and treatment of specific language and/or reading disorders.

Publication Types:

Clinical Trial

PMID: 15800451 [PubMed - indexed for MEDLINE]

3: Restor Neurol Neurosci. 2004;22(6):445-58.

Word learning can be achieved without feedback: implications for aphasia therapy.

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PURPOSE: Children acquire new words through exposure, without the necessity for explicit feedback by caregivers. In aphasia therapy, feedback to the patient is considered an important asset even though the empirical base demonstrating superior learning with online feedback is lacking. The present study examined if healthy adults and patients with chronic aphasia can acquire a new lexicon by intense frequency of exposure alone. **METHODS:** We compared learning rates with "frequency of exposure alone" (no-feedback condition: n=19 healthy adults; two patients with chronic Broca's and Wernicke's aphasia, respectively) with a condition where subjects additionally received online feedback (feedback condition; n=19). The learning principle was higher statistical co-occurrences of "correct" picture-pseudoword pairings as compared to "incorrect" pairings. In the feedback condition, immediate online feedback on the correctness of respective choices was additionally provided. **RESULTS:** Both healthy groups successfully acquired the vocabulary. Feedback led to a slight initial acceleration of learning but did not improve latency to peak performance or long-term retention of lexical knowledge. These findings show that high frequency interactive exposure is a potent word learning mechanism in adults and that feedback is not crucial. This is further corroborated by our successful training of two patients with chronic aphasia without online feedback. **CONCLUSIONS:** Our findings demonstrate that word re-learning in aphasia could benefit from maximizing on the frequency of exposure and exploiting the therapeutic principle of "massed practice", which has been successful in physical rehabilitation after stroke. Additionally, economizing on feedback may prevent patients becoming discouraged by continuous confrontation with their deficits.

Publication Types:

Clinical Trial

PMID: 15798363 [PubMed - indexed for MEDLINE]

4: Neurocase. 2004 Dec;10(6):471-82.

Knowing its gender without knowing its name: differential access to lexical information in a jargonaphasic patient.

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According to recent models of word production, when we name a picture, we first retrieve the meaning of the object, and then we independently retrieve the written or sound form of the word corresponding to the picture. In languages like French, in which words have a gender, theoretical models disagree with respect to the moment at which this information is retrieved. The lemma model (Levelt et al., 1999) posits that we access this information before the sound or written form of the word is retrieved. In contrast, the "Independent network" (IN) model (Caramazza, 1997) model posits that we access gender after retrieval of either the sound or written form of the word. This paper reports a single-case study of an aphasic patient, BA, who showed deficits affecting spoken and written production in the presence of largely preserved comprehension abilities. Experimental testing indicated that she presented with a deficit functionally localized in the access to lexical representations. Results in picture naming and in gender identification also revealed that BA identified the gender above chance level, whether she produced a correct response, a phonemic error, or a neologism. In contrast, when she was unable to produce a spoken or written response, she could not identify the gender. This pattern of performance is consistent with the lemma model in which access to lexical syntax is required before access to phonological form can take place.

Publication Types:

Clinical Trial

PMID: 15788287 [PubMed - indexed for MEDLINE]

5: Brain Lang. 2005 Apr;93(1):95-105.

Improved picture naming in chronic aphasia after TMS to part of right Broca's area: an open-protocol study.

Naeser MA, Martin PI, Nicholas M, Baker EH, Seekins H, Kobayashi M, Theoret H, Fregni F, Maria-Tormos J, Kurland J, Doron KW, Pascual-Leone A.

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Functional imaging studies with nonfluent aphasia patients have observed "over-activation" in right (R) language homologues. This may represent a maladaptive strategy; suppression may result in language improvement. We applied slow, 1 Hz repetitive transcranial magnetic stimulation (rTMS) to an anterior portion of R Broca's homologue daily, for 10 days in four aphasia patients who were 5-11 years poststroke. Significant improvement was observed in picture naming at 2 months post-rTMS, with lasting benefit at 8 months in three patients. This preliminary, open trial suggests that rTMS may provide a novel treatment approach for aphasia by possibly modulating the distributed, bi-hemispheric language network.

Publication Types:
Clinical Trial

PMID: 15766771 [PubMed - indexed for MEDLINE]

6: Cerebrovasc Dis. 2005;19(2):125-32. Epub 2005 Jan 11.

Long-term antidepressant treatment with moclobemide for aphasia in acute stroke patients: a randomised, double-blind, placebo-controlled study.

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BACKGROUND AND PURPOSE: Pharmacotherapy aimed at stroke rehabilitation through direct central nervous effects may be assumed to work in a similar way for language recovery and sensory-motor recovery. Some data suggest that antidepressant drugs could be beneficial also for functional improvement. This prompted us to investigate whether regression from aphasia after acute stroke could be enhanced by antidepressive drug therapy. **METHODS:** We randomised 90 acute stroke patients with aphasia to either 600 mg moclobemide or placebo daily for 6 months, within 3 weeks of the onset of stroke. Aphasia was assessed prior to treatment and at 6 months, using Reinvang's 'Grunntest for afasi' and the

Amsterdam-Nijmegen-Everyday-Language-Test (ANELT). RESULT: The degree of aphasia decreased significantly at 6 months, with no difference between the moclobemide- and the placebo-treated groups. Multivariate regression analysis including treatment group, activities of daily living, aetiology of stroke, ANELT, and Reinvang's coefficient at baseline, and neurological deficit confirmed these results. In all, 13 in the moclobemide and 10 in the placebo group stopped taking the study medication. No further change was found in the 56 aphasic patients followed up for another 6 months with no medication. CONCLUSIONS: Compared to placebo, treatment with moclobemide for 6 months did not enhance the regression of aphasia following an acute stroke. Copyright (c) 2005 S. Karger AG, Basel.

Publication Types:

Clinical Trial

Randomized Controlled Trial

PMID: 15644624 [PubMed - indexed for MEDLINE]

7: J Commun Disord. 2005 Mar-Apr;38(2):83-107.

Evolution of phonemic word fluency performance in post-stroke aphasia.

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In this longitudinal study, quantitative and qualitative changes in responses of people with aphasia were examined on a phonemic fluency task. Eighteen patients were tested at 3-month intervals on the letters F-A-S while they received comprehensive, intensive treatment from 3 to 12 months post-stroke. They returned for a follow-up evaluation at an average of 10 months post-intervention. Mean group scores improved significantly from beginning to end of treatment, but declined post-intervention. Patients produced a significantly greater number and proportion of modifiers (adjectives and adverbs) between the beginning and end of treatment, with no decline afterwards, implying that they had access to a wider range of grammatical categories over time. Moreover, patients used significantly more phonemic clusters in generating word lists by the end of treatment. These gains may be attributed to the combined effects of time since onset and the linguistic and cognitive stimulation that patients received in therapy. LEARNING OUTCOMES: Readers of this paper should (1) gain a better understanding of verbal fluency performance in the assessment of aphasia, (2) recognize the importance of analyzing

qualitative aspects of single word production in aphasia, and (3) contribute to their clinical judgment of long term improvement in aphasia.

Publication Types:

Clinical Trial

Randomized Controlled Trial

PMID: 15571711 [PubMed - indexed for MEDLINE]

8: Ann Neurol. 2004 Nov;56(5):750.

A clinical trial of bromocriptine for treatment of primary progressive aphasia.

Reed DA, Johnson NA, Thompson C, Weintraub S, Mesulam MM.

Publication Types:

Clinical Trial

Letter

PMID: 15505780 [PubMed - indexed for MEDLINE]

9: Neuroreport. 2004 Aug 26;15(12):1891-4.

Language-related brain function during word repetition in post-stroke aphasics.

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We compared fMRI findings (using SPM99) obtained with repetition task in normal subjects with those of two patients with Broca's and Wernicke's aphasia who received speech therapy and showed complete recovery. Both aphasic patients with left hemisphere damage who showed complete recovery exhibited activation of only the compensatory area in the right hemisphere during the repetition task.

Recovery from Broca's aphasia involves reorganization and neuromodulation between the external temporopolar area and the anterior superior temporal area of the superior temporal gyrus, putamen and the inferior frontal gyrus, while that from Wernicke's aphasia involves reorganization and neuromodulation between the superior temporal gyrus of the temporal region, the posterior supramarginal gyrus and inferior parietal lobule of the parietal region.

Publication Types:

Clinical Trial

PMID: 15305131 [PubMed - indexed for MEDLINE]

10: Ann Neurol. 2004 Jul;56(1):20-6.

Comment in:

Ann Neurol. 2004 Jul;56(1):5-7.

Levodopa: faster and better word learning in normal humans.

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Dopamine is a potent modulator of learning and has been implicated in the encoding of stimulus salience. Repetition, however, as required for the acquisition and reacquisition of sensorimotor or cognitive skills (e.g., in aphasia therapy), decreases salience. We here tested whether increasing brain levels of dopamine during repetitive training improves learning success. Forty healthy humans took 100mg of the dopamine precursor levodopa or placebo daily for 5 days in a randomized double-blind and parallel-group design. Ninety minutes later on each day, subjects were trained on an artificial vocabulary using a high-frequency repetitive approach. Levodopa significantly enhanced the speed, overall success, and long-term retention of novel word learning in a dose-dependent manner. These findings indicate new ways to potentiate learning in a variety of domains if conventional training alone fails.

Publication Types:

Clinical Trial

Randomized Controlled Trial

PMID: 15236398 [PubMed - indexed for MEDLINE]

11: Cancer. 2004 Apr 1;100(7):1438-48.

Intensive chemotherapy with and without cranial radiation for Burkitt leukemia and lymphoma: final results of Cancer and Leukemia Group B Study 9251.

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BACKGROUND: The objective of the current study was to evaluate the efficacy of intensive chemotherapy with and without cranial radiation for central nervous system (CNS) prophylaxis in adults with Burkitt leukemia or lymphoma. **METHODS:** Patients received 18 weeks of therapy. Prophylactic cranial radiation (2400 centigrays) and 12 doses of triple intrathecal chemotherapy were administered to the first cohort of patients. A subsequent cohort received the same therapy, with the exceptions that intrathecal therapy was reduced to six doses and radiotherapy was administered only to high-risk individuals. **RESULTS:** The median follow-up durations were 6.8 years in Cohort 1 and 4.1 years in Cohort 2. Three occurrences of transverse myelitis, 2 severe neuropathies, 3 cases of aphasia, and 1 case of blindness were documented in the first cohort of 52 patients (Cohort 1). In the subsequent cohort of 40 patients (Cohort 2), none of these occurrences were observed, and patients experienced less neurologic toxicity overall (61% vs. 26%; $P=0.001$). Responses were similar, and the 3-year event-free survival rate was 0.52 (95% confidence interval, 0.38-0.65) for Cohort 1 and 0.45 (0.29-0.60) for Cohort 2. **CONCLUSIONS:** Intensive, short-duration chemotherapy with less intensive CNS prophylaxis led to control at this sanctuary site with little neurotoxicity and may be curative for adults with Burkitt leukemia or lymphoma. Copyright 2004 by the American Cancer Society.

Publication Types:

Clinical Trial

PMID: 15042678 [PubMed - indexed for MEDLINE]

12: Arch Neurol. 2004 Feb;61(2):265-8.

Left hemicranial hypoplasia in 2 patients with primary progressive aphasia.

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BACKGROUND: Primary progressive aphasia (PPA) leads to a gradual and relatively isolated dissolution of language function. The factors that determine the selectivity of the disease process remain unknown. We had speculated that PPA may occasionally arise as a tardive manifestation of genetic or acquired

vulnerabilities involving the language network of the brain. **OBJECTIVE:** To explore predisposing factors for PPA. **RESULTS:** In 2 patients, PPA developed with a background of mild left hemispheric hypoplasia. **CONCLUSION:** In keeping with other observations of PPA in patients with dyslexia and childhood injury to the left temporal lobe, these 2 patients support the contention that some cases of PPA may arise in settings where the language network has become a locus of least resistance.

Publication Types:
Clinical Trial

PMID: 14967776 [PubMed - indexed for MEDLINE]

13: Stroke. 2004 Feb;35(2):554-9. Epub 2004 Jan 22.

Functional magnetic resonance imaging before and after aphasia therapy: shifts in hemodynamic time to peak during an overt language task.

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BACKGROUND AND PURPOSE: Comparing the temporal characteristics of hemodynamic responses in activated cortical regions of aphasic patients before and after therapy would provide insight into the relationship between improved task performance and changes in blood oxygenation level-dependent (BOLD) functional MRI (fMRI) signal. This study investigated differences in the time to peak (TTP) of hemodynamic responses in activated regions of interest (ROIs), before and after therapy, and related them to changes in task performance. **METHODS:** Three aphasic patients and 3 controls overtly generated a single exemplar in response to a category. For the patients, TTP of hemodynamic responses in selected ROIs was compared before and after language therapy. The timing differences between auditory cues and verbal responses were compared with TTP differences between auditory and motor cortices. **RESULTS:** The selected ROIs were significantly activated in both aphasic patients and controls during overt word generation. In the aphasic patients, both the timing difference from auditory cues to verbal responses and the TTP difference between auditory and motor cortices decreased after rehabilitation, becoming similar to the values found in controls. **CONCLUSIONS:** Findings indicate that (1) rehabilitation increased the speed of word-finding processes; (2) TTP analysis was sensitive to this functional change and can be used to represent improvement in behavior; and (3) it is important to monitor the behavioral performance that might correlate with the temporal

pattern of the hemodynamic response.

Publication Types:

Clinical Trial

Controlled Clinical Trial

PMID: 14739418 [PubMed - indexed for MEDLINE]

14: Stroke. 2004 Jan;35(1):141-6. Epub 2003 Dec 4.

Effects of semantic treatment on verbal communication and linguistic processing in aphasia after stroke: a randomized controlled trial.

Doesborgh SJ, van de Sandt-Koenderman MW, Dippel DW, van Harskamp F, Koudstaal PJ, Visch-Brink EG.

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BACKGROUND AND PURPOSE: Semantic deficits, deficits in word meaning, have a large impact on aphasic patients' verbal communication. We investigated the effects of semantic treatment on verbal communication in a randomized controlled trial. **METHODS:** Fifty-eight patients with a combined semantic and phonological deficit were randomized to receive either semantic treatment or the control treatment focused on word sound (phonology). Fifty-five patients completed pretreatment and posttreatment assessment of verbal communication (Amsterdam Nijmegen Everyday Language Test [ANELT]). In an on-treatment analysis (n=46), treatment-specific effects on semantic and phonological measures were explored. **RESULTS:** Both groups improved on the ANELT, with no difference between groups in overall score (difference, -1.1; 95% confidence interval [CI], -5.3 to 3.1). After semantic treatment, patients improved on a semantic measure (mean improvement, 2.9; 95% CI, 1.2 to 4.6), whereas after phonological treatment, patients improved on phonological measures (mean improvement, 3.0; 95% CI, 1.4 to 4.7, and 3.0; 95% CI, 1.2 to 4.7). **CONCLUSIONS:** No differences in primary outcome were noted between the 2 treatments. Our findings challenge the current notion that semantic treatment is more effective than phonological treatment for patients with a combined semantic and phonological deficit. The selective gains on the semantic and phonological measures suggest that improved verbal communication was achieved in a different way for each treatment group.

Publication Types:

Clinical Trial

Randomized Controlled Trial

PMID: 14657447 [PubMed - indexed for MEDLINE]

15: Neurology. 2003 Oct 14;61(7):977-80.

Comment in:

Neurology. 2003 Oct 14;61(7):881-2.

Plasticity of motor cortex excitability induced by rehabilitation therapy for writing.

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The mechanisms of rehabilitation-induced plasticity in the motor system after stroke are not defined. The authors studied seven patients with residual poststroke agraphia, aphasia, and right hemiparesis. After a 40-minute rehabilitation therapy that promoted use of the paretic hand for writing, the authors observed a task-specific increase in recruitment of ipsilateral corticospinal pathways. Rehabilitation aimed to increase the use of the paretic hand may induce recruitment of previously silent ipsilateral corticospinal pathways even in poorly recovered poststroke patients.

Publication Types:

Clinical Trial

PMID: 14557572 [PubMed - indexed for MEDLINE]

16: Neuroimage. 2003 Jul;19(3):674-83.

In search of the hidden: an fMRI study with implications for the study of patients with autism and with acquired brain injury.

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The Embedded Figures Task involves a search for a target hidden in a more complex visual pattern. The task has been used to study local perception and visual search in a range of normal and pathological populations. After acquired brain damage, impairment on embedded figures is strongly associated with

aphasia; in the context of developmental disorder, people with autism or with Asperger's syndrome are reliably found to be better than normal controls on the task. The current study employed functional MRI with healthy volunteers to elucidate the brain regions that are specifically involved in the local search aspects of the Embedded Figures Task. We did so by analyzing the neural activations that are implicated in the task over and above those involved in an easier visual search task and in a straightforward shape recognition task. Significant activations ($P < 0.05$, corrected) specific in the above sense to the Embedded Figures Task were found in left inferior and left superior parietal cortex and in left ventral premotor cortex (inferior frontal gyrus). By contrast, comparing the overall effect of visual search within geometric figures to pure recognition of geometric shapes revealed more widespread activations in parietal, occipital, cerebellar, and frontal areas bilaterally. The implications of these findings for some developmental and acquired pathologies of perceptual functioning are outlined. We also relate our results to studies of local/global processing in other tasks.

Publication Types:

Clinical Trial

PMID: 12880798 [PubMed - indexed for MEDLINE]

17: Stroke. 2003 Jul;34(7):1746-51. Epub 2003 Jun 19.

Comment in:

Stroke. 2003 Jul;34(7):1752-3.

Auditory discrimination after left-hemisphere stroke: a mismatch negativity follow-up study.

Ilvonen TM, Kujala T, Kiesilainen A, Salonen O, Kozou H, Pekkonen E, Roine RO, Kaste M, Naatanen R.

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BACKGROUND AND PURPOSE: We sought to determine the recovery of cortical auditory discrimination in aphasic, left-hemisphere-stroke patients by using an electrophysiological response called mismatch negativity (MMN) and speech-comprehension tests. **METHODS:** MMN in 8 left-hemisphere stroke patients was recorded in response to duration and frequency changes in a repetitive, harmonically rich tone 4 and 10 days and again 3 and 6 months after their first unilateral stroke. Eight age-matched, healthy persons served as control

subjects. RESULTS: At 4 days after stroke onset, patients' sound discrimination was impaired in their left hemisphere, as suggested by attenuated MMNs, especially to right-ear stimuli. At 3 months after stroke, however, MMN to the right-ear duration change had significantly increased and was of normal size. A significant change for the frequency MMN was found for left-ear stimuli between 3 and 6 months after stroke. During the follow-up period, progressive improvement in speech-comprehension tests was also observed. Furthermore, there was a significant correlation between the change in the duration MMN amplitude and the Boston Diagnostic Aphasia Examination speech-comprehension test from 10 days to 3 months after stroke. CONCLUSIONS: These results suggest that the MMN can be used as an index of the recovery of auditory discrimination.

Publication Types:

Clinical Trial

Controlled Clinical Trial

PMID: 12817100 [PubMed - indexed for MEDLINE]

18: Vestn Ross Akad Med Nauk. 2002;(12):28-32.

[Neuropeptide induction of compensatory processes at aphasia]

[Article in Russian]

Belokoskova SG, Tsikunov SG, Klement'ev BI.

Dynamic changes of speech function were studied in patients with persistence aphatic disorders after stroke under the conditions of application of V2 vasopressin receptor agonist (1-desamino-8-D-arginin-vasopressin). A course of intranasal administration of the medical drug by using the double blind control showed a reliable reduction of frustration severity of expressive and impressive speech in patients with aphasia of different forms and degrees. A correlation of positive influence of vasopressin on speech, verbal memory and attention was found at efferent motor aphasia. The achieved effects preserved during a two-year catamnestic observation period. A repeated course of therapy resulted in an additional improvement of speech. Neuropeptide restored initially, in patients with aphasia, relatively simple forms of speech and later--complicated ones. This resulted in an improvement of speech functions which are regulated by both cerebral hemispheres. Supposedly, neuropeptide optimized the activity of both the right and left cerebral hemispheres. The stability of the obtained effects is explained by induction, due to vasopressin, of compensatory processes leading to reorganization of intercentral connections.

Publication Types:

Clinical Trial

PMID: 12611172 [PubMed - indexed for MEDLINE]

19: J Neurosurg Anesthesiol. 2003 Jan;15(1):25-32.

Decompressive craniectomy for intractable cerebral edema: experience of a single center.

Ziai WC, Port JD, Cowan JA, Garonzik IM, Bhardwaj A, Rigamonti D.

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Several case reports and small clinical series have reported benefits of decompressive hemicraniectomy in patients with intractable cerebral edema and early clinical herniation. Specific indications and timing for this intervention remain unclear. We present our experience with this procedure in a subset of 18 patients with massive cerebral edema refractory to medical management, treated with decompressive craniectomy over a 3-year period (1997 to 2000). Computerized tomography (CT) scans were independently analyzed by a neuroradiologist blinded to clinical outcome. Eleven male and seven female patients, ages 20 to 69 years (mean +/- SEM, 46 +/- 14 years), underwent hemicraniectomy for the following diagnoses: 12 hemispheric infarcts, 3 traumatic intracerebral hemorrhages/contusions, 2 nontraumatic intraparenchymal hemorrhages (ICH), and 1 subdural empyema. This population included four patients with aneurysmal subarachnoid hemorrhage (SAH). Patients were followed for a mean of 10 months. Clinical factors including age, side of lesion, preoperative herniation signs, and early surgery (<12 or <24 hours) were not significantly associated with mortality or Glasgow outcome score (GOS). Preoperative CT evidence of transtentorial herniation (present in 5/17 patients) was associated with mortality ($P = 0.04$), while preoperative uncal herniation (8/17 patients) was associated with poor outcome ($GOS > 1$) ($P = 0.01$). Favorable outcome ($GOS > 3$) occurred in six patients, three with spontaneous or traumatic focal hematomas. Of four patients with SAH, one died while the others were severely disabled ($GOS < 3$). Seven of nine patients with malignant MCA infarctions unrelated to SAH had poor outcomes. The overall mortality was 4/18 (22%). Patients with refractory cerebral swelling secondary to focal hematomas may have better outcomes following decompressive craniectomy. Patients with preexisting SAH seem to have poor outcomes, possibly related to other neurologic comorbidities. Hemicraniectomy requires definition of proper timing. Preoperative CT findings, especially transtentorial and uncal herniation may be useful in defining when

decompressive surgery should not be performed.

Publication Types:

Clinical Trial

PMID: 12499979 [PubMed - indexed for MEDLINE]

20: Neuroimage. 2002 Sep;17(1):174-83.

Neural substrates of spoken language rehabilitation in an aphasic patient: an fMRI study.

Leger A, Demonet JF, Ruff S, Aithamon B, Touyeras B, Puel M, Boulanouar K, Cardebat D.

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Little is known about the neural counterparts of speech therapy in aphasic patients. An fMRI experiment was performed before and after a specific and intensive speech output therapy in RC, a patient with long-lasting speech output deficit following a left-sided ischemic lesion. Overt picture naming and picture/word rhyming were used as activation tasks in RC and 6 control subjects. The naming task concerned the output lexicon deficit to be rehabilitated while rhyming referred to preserved levels of processing and was used to control for repetition effect. The speech therapy program improved naming performance. By comparison to the pattern observed before therapy, the naming task after therapy induced a pattern of activation close to that observed in control subjects, involving left-sided language areas surrounding the lesion. Speech therapy effect was associated with activations in Broca's area and the left supra-marginal gyrus, which might reflect a therapy-induced phonological compensatory strategy for naming.

Publication Types:

Case Reports

Clinical Trial

PMID: 12482075 [PubMed - indexed for MEDLINE]

21: Stroke. 2002 Jun;33(6):1584-8.

Hemicraniectomy and moderate hypothermia in patients with severe ischemic stroke.

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BACKGROUND AND PURPOSE: We compared the clinical course of 36 consecutive patients with severe acute ischemic stroke (more than two thirds of the middle cerebral artery territory) treated with hemicraniectomy (CE; n=17) or moderate hypothermia (MH; n=19) in terms of intracranial pressure control, mortality, and specific treatment parameters. **METHODS:** Over a period of 18 months, patients with severe ischemic stroke were treated with CE when the nondominant hemisphere was affected and with MH when the dominant hemisphere was affected. MH (33 degrees C) was induced with either cold blankets and fans (n=11) or endovascular cooling (n=8). Intracranial pressure was monitored invasively in all cases.

RESULTS: Age, sex, cranial CT findings, level of consciousness, and time to treatment were similar between the 2 groups; significant differences were noted in National Institute of Health Stroke Scale (NIHSS) score (20 [range, 18 to 22] and 17 [range, 16 to 18] for MH and CE, respectively) but were not present when NIHSS score was corrected for aphasia (17 [range, 15 to 19] and 17 [range, 16 to 18] for MH and CE, respectively). Mortality was 12% for CE and 47% for MH; 1 patient treated with MH died as a result of treatment complications (sepsis) and 3 of intracranial pressure crises that occurred during rewarming. Duration of mechanical ventilation and of neurological intensive care unit stay did not significantly differ, but duration of catecholamine application and maximal catecholamine dosage were significantly higher in the MH group. **CONCLUSIONS:** In patients with severe ischemic stroke, CE results in lower mortality and lower complication rates compared with MH. Both treatment modalities, however, are associated with intensive medical treatment and a prolonged stay in the neurological intensive care unit.

Publication Types:

Clinical Trial

PMID: 12052995 [PubMed - indexed for MEDLINE]

22: J Chem Neuroanat. 2002 Mar;23(3):223-30.

Effect of posterior temporal-parietal hematoma on orbital frontal chemistry in relation to a cognitive and anxiety state: a combined ¹H-MRS and neuropsychological study of an unusual case as compared with 16 healthy subjects.

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The authors report the unusual case of a 58-year-old woman (MJP) suffering from left temporal throbbing headache, associated with confusion. Magnetic resonance imaging showed a 5 x 3 x 2 cm hematoma at the left posterior temporal--parietal junction (PTPJ). Repeated MRI of MJP's brain performed during a 4-month follow-up period showed decrease in hematoma size (2.3 x 1.5 x 1) with evidence for development of encephalomalacia and resorption of blood products involving the area of hemorrhage. MJP had mild transcortical sensory aphasia characterized by difficulty with reading and processing, with semantic paraphasic errors while speaking and some difficulty with repetition. MJP had remained normotensive and seizure free, on Vasotec therapy and Dilantin prophylaxis. An in vivo proton magnetic resonance spectroscopy (1H-MRS) performed during an 8-month follow-up period showed reduced concentration for N-acetyl aspartate (NAA) by 19.3% (F=4.09, P<0.04), and myo-inositol by 32.0% (F=5.16, P<0.02) in the left orbital frontal cortex (OFC) as compared with 16 healthy subjects (age- and sex-matched). Cognitive tests (the Wechsler abbreviated scale of intelligence (WASI) and the Stroop color--word interference) showed a significant impairment suggesting involvement of higher-order cognitive functioning (memory, learning, and general intelligence) and attentional system. The Spielberger state-trait anxiety inventory (STAI) showed increased anxiety at the moment of the current examination and decreased tendency to be anxious over a long period of time. The Beck Anxiety and Depression Inventory revealed minimal anxiety and mild to moderate levels of depression. It is hypothesized that the PTPJ hematoma triggered long-distance pathways linking PTPJ area and frontal lobe, including OFC, which resulted in abnormal chemical changes in the left OFC and in cognitive tests impairment, and in long-term anxiety state changes.

Publication Types:

- Case Reports
- Clinical Trial

PMID: 11861128 [PubMed - indexed for MEDLINE]

23: Stroke. 2001 Sep;32(9):2093-8.

Comment in:

Stroke. 2002 Apr;33(4):1170; author reply 1170.

A double-blind, placebo-controlled study of the use of amphetamine in the treatment of aphasia.

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BACKGROUND AND PURPOSE: A number of studies suggest that drugs which increase the release of norepinephrine promote recovery when administered late (days to weeks) after brain injury in animals. A small number of clinical studies have investigated the effects of the noradrenergic agonist dextroamphetamine in patients recovering from motor deficits following stroke. To determine whether these findings extend to communication deficits subsequent to stroke, we administered dextroamphetamine, paired with speech/language therapy, to patients with aphasia. **METHODS:** In a prospective, double-blind study, 21 aphasic patients with an acute nonhemorrhagic infarction were randomly assigned to receive either 10 mg dextroamphetamine or a placebo. Patients were entered between days 16 and 45 after onset and were treated on a 3-day/4-day schedule for 10 sessions. Thirty minutes after drug/placebo administration, subjects received a 1-hour session of speech/language therapy. The Porch Index of Communicative Ability was used at baseline, at 1 week off the drug, and at 6 months after onset as the dependent language measure. **RESULTS:** Although there were no differences between the drug and placebo groups before treatment ($P=0.807$), by 1 week after the 10 drug treatments ended there was a significant difference in gain scores between the groups ($P=0.0153$), with the greater gain in the dextroamphetamine group. The difference was still significant when corrected for initial aphasia severity and age. At the 6-month follow-up, the difference in gain scores between the groups had increased; however, the difference was not significant ($P=0.0482$) after correction for multiple comparisons. **CONCLUSIONS:** Administration of dextroamphetamine paired with 10 1-hour sessions of speech/language therapy facilitated recovery from aphasia in a small group of patients in the subacute period after stroke. Neuromodulation with dextroamphetamine, and perhaps other drugs that increase central nervous system noradrenaline levels, may facilitate recovery when paired with focused behavioral treatment.

Publication Types:

Clinical Trial

Controlled Clinical Trial

PMID: 11546902 [PubMed - indexed for MEDLINE]

24: Stroke. 2001 Jul;32(7):1621-6.

Constraint-induced therapy of chronic aphasia after stroke.

Pulvermuller F, Neininger B, Elbert T, Mohr B, Rockstroh B, Koebbel P, Taub E.

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Patients with chronic aphasia were assigned randomly to a group to receive either conventional aphasia therapy or constraint-induced (CI) aphasia therapy, a new therapeutic technique requiring intense practice over a relatively short period of consecutive days. CI aphasia therapy is realized in a communicative therapeutic environment constraining patients to practice systematically speech acts with which they have difficulty. Patients in both groups received the same amount of treatment (30 to 35 hours) as 10 days of massed-practice language exercises for the CI aphasia therapy group (3 hours per day minimum; 10 patients) or over a longer period of approximately 4 weeks for the conventional therapy group (7 patients). CI aphasia therapy led to significant and pronounced improvements on several standard clinical tests, on self-ratings, and on blinded-observer ratings of the patients' communicative effectiveness in everyday life. Patients who received the control intervention failed to achieve comparable improvements. Data suggest that the language skills of patients with chronic aphasia can be improved in a short period by use of an appropriate massed-practice technique that focuses on the patients' communicative needs.

Publication Types:

Clinical Trial

Randomized Controlled Trial

PMID: 11441210 [PubMed - indexed for MEDLINE]

25: J Speech Lang Hear Res. 2001 Jun;44(3):624-38.

Training volunteers as conversation partners using "Supported Conversation for Adults with Aphasia" (SCA): a controlled trial.

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This article reports the development and evaluation of a new intervention termed "Supported Conversation for Adults with Aphasia" (SCA). The approach is based on the idea that the inherent competence of people with aphasia can be revealed through the skill of a conversation partner. The intervention approach was

developed at a community-based aphasia center where volunteers interact with individuals with chronic aphasia and their families. The experimental study was designed to test whether training improves the conversational skills of volunteers, and, if so, whether the improvements affect the communication of their conversation partners with aphasia. Twenty volunteers received SCA training, and 20 control volunteers were merely exposed to people with aphasia. Comparisons between the groups' scores on a Measure of Supported Conversation for Adults with Aphasia provide support for the efficacy of SCA. Trained volunteers scored significantly higher than untrained volunteers on ratings of acknowledging competence [$F(1, 36) = 19.1, p < .001$] and revealing competence [$F(1, 36) = 159.0, p < .001$] of their partners with aphasia. The training also produced a positive change in ratings of social [$F(1, 36) = 5.7, p < .023$] and message exchange skills [$F(1, 36) = 17.6, p < .001$] of individuals with aphasia, even though these individuals did not participate in the training. Implications for the treatment of aphasia and an argument for a social model of intervention are discussed.

Publication Types:

Clinical Trial

Randomized Controlled Trial

PMID: 11407567 [PubMed - indexed for MEDLINE]

26: Int J Clin Pharmacol Ther. 2001 Apr;39(4):152-7.

Restitution of alpha-topography by piracetam in post-stroke aphasia.

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OBJECTIVE: Electroencephalographic and clinical effects of piracetam in post-stroke aphasia were evaluated in a prospective, randomized, double-blind, placebo-controlled trial. **METHODS:** In 24 patients with mild to moderate aphasia after ischemic stroke, quantitative topographic EEG at rest was studied before and after a 6-week treatment period. **RESULTS:** In the active treatment group, a significant shift in the alpha-rhythm from frontal to occipital regions was observed which may be due to a restitution of corticothalamic circuits involved in the generation of alpha-activity. **CONCLUSION:** Neuropsychological scores improved significantly and markedly in various domains of speech during piracetam treatment, whereas improvements were less marked and restricted to a few categories in the placebo group.

Publication Types:

Clinical Trial

Randomized Controlled Trial

PMID: 11332870 [PubMed - indexed for MEDLINE]

27: Cerebrovasc Dis. 2001;11(3):257-64.

Correlation of aphasia and/or neglect with cortical infarction in a subpopulation of RANTTAS.

Worrall BB, Farace E, Hillis AE, Hutson RK, Wityk R, Saver JL, Johnston KC, Haley EC; RANTTAS Investigators.

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Classically in neurology, aphasia and neglect were accepted as reliable markers of cortical lesions. The actual prognostic values of aphasia and neglect have yet to be formally tested. This analysis sought to determine the predictive accuracy of aphasia and/or neglect in acute stroke for cortical infarction. Data from the RANTTAS investigation of tirilazad mesylate in stroke patients were reanalyzed, comparing acute National Institutes of Health Stroke Scale (NIHSS) measures of aphasia and neglect to lesion location on day 7-10 CT scans. Correlations between the presence of aphasia and/or neglect and the presence of a cortical lesion were only in the moderate range, and positive predictive values were far from perfect, as would be expected. 'Subcortical' aphasia or neglect was more likely in large, subcortical lesions. Aphasia and neglect, as determined in the acute setting by the NIHSS, are only moderately associated with cortical infarct identified on follow-up CT scans. If selective neuroprotection is envisioned for acute stroke patients, more accurate markers of cortical infarction may be needed. Copyright 2001 S. Karger AG, Basel

Publication Types:

Clinical Trial

Multicenter Study

Randomized Controlled Trial

PMID: 11306777 [PubMed - indexed for MEDLINE]

28: Invest New Drugs. 2001;19(1):29-39.

Phase 1 study of N1-N11-diethylnorspermine (DENSPM) administered TID for 6 days

in patients with advanced malignancies.

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This was a dose escalation Phase 1 trial designed to determine the maximum tolerated dose (MTD) and dose-limiting toxicities (DLT) of DENSPM. **METHODS:** Adult patients with refractory solid tumors were treated with DENSPM administered by intravenous infusion in 100 ml of normal saline over 30 minutes. The daily dose of DENSPM was divided into three equal doses administered approximately every eight hours for six days. Courses were repeated every 28 days. **RESULTS:** Twenty-eight patients were enrolled in the study. Dose levels of DENSPM explored were 25 mg/m²/day (3 patients), 50 mg/m²/day (9 patients), 60 mg/m²/day (5 patients), 75 mg/m²/day (6 patients), 94 mg/m²/day (3 patients) and 118 mg/m²/day (2 patients). The DLT for DENSPM was central nervous system toxicity characterized by aphasia, ataxia, dizziness, vertigo and slurred speech occurring at dose levels \geq 94 mg/m²/day, which was also the MTD. **Safety:** The most frequent drug-related adverse events were asthenia (9 patients), injection site reaction (6 patients) and anemia (6 patients). One patient was removed from the study due to CNS toxicity. There were no treatment-related deaths. No trends were observed regarding hematologic toxicities, biochemical changes or changes in vital signs. **Efficacy:** Nineteen of the 28 patients enrolled in the study were assessed for response. No objective responses were observed. Five patients had stable disease as the best response to therapy. **CONCLUSIONS:** Because the DLT was CNS and because of the relatively low doses that could be safely administered on this schedule as compared with a once-a-day schedule, this regimen was not recommended for Phase 2.

Publication Types:

Clinical Trial

Clinical Trial, Phase I

PMID: 11291831 [PubMed - indexed for MEDLINE]

29: Arch Phys Med Rehabil. 2000 Nov;81(11):1464-7.

Incidence and outcome of poststroke urinary retention: a prospective study.

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OBJECTIVE: To document the incidence and outcome of poststroke urinary retention, and to determine clinical variables associated with it. **DESIGN:** Cohort of 80 consecutive patients. **SETTING:** Inpatient setting of a tertiary rehabilitation center. **PARTICIPANTS:** Eighty patients (48 men, 32 women; mean age, 65.4 yr) with a first ischemic stroke, admitted for rehabilitation within 4 weeks of the stroke. **MAIN OUTCOME MEASURES:** Patients had their postvoid residuals (PVR) assessed via a bladder scanner within 72 hours of admission. Urinary retention was defined by a PVR of more than 100mL on 2 consecutive occasions. **RESULTS:** Urinary retention was present in 23 (29%) patients. Cognitive impairment, aphasia, diabetes mellitus, and cortical stroke were present in 30%, 29%, 31%, and 41% of patients, respectively. Fifteen (19%) patients developed urinary tract infection during rehabilitation. Urinary retention was significantly associated ($p < .05$) with cognitive impairment, diabetes mellitus, aphasia, a lower admission functional status (as measured on the modified Barthel index), and urinary tract infection, but not with the use of anticholinergic medications. On discharge, 4 patients still had urinary retention (3 were voiding spontaneously and the other used intermittent catheterization). **CONCLUSION:** Urinary retention was common in patients with ischemic stroke. It should be strongly suspected in patients with aphasia, cognitive impairment, poor functional status, and diabetes mellitus.

Publication Types:

Clinical Trial

PMID: 11083349 [PubMed - indexed for MEDLINE]

30: Stroke. 2000 Sep;31(9):2112-6.

Piracetam improves activated blood flow and facilitates rehabilitation of poststroke aphasic patients.

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BACKGROUND AND PURPOSE: In a prospective, double-blind, placebo-controlled study, it was investigated whether piracetam improves language recovery in poststroke aphasia assessed by neuropsychological tests and activation PET measurement of cerebral blood flow. **METHODS:** Twenty-four stroke patients with aphasia were randomly allocated to 2 groups: 12 patients received 2400 mg piracetam twice daily, 12 placebo. Before and at the end of the 6-week treatment period in which both groups received intensive speech therapy, the patients were

examined neuropsychologically and studied with H(2)(15)O PET at rest and during activation with a word-repetition task. Blood flow was analyzed in 14 language-activated brain regions defined on reconstructed surface views from MRI coregistered to the PET images. **RESULTS:** Before treatment, both groups were comparable with respect to performance in language tasks and to type and severity of aphasia. In the piracetam group, increase of activation effect was significantly higher ($P < 0.05$) in the left transverse temporal gyrus, left triangular part of inferior frontal gyrus, and left posterior superior temporal gyrus after the treatment period compared with the initial measures. The placebo group showed an increase of activation effect only in the left vocalization area. In the test battery, the piracetam group improved in 6 language functions, the placebo group only in 3 subtests. **CONCLUSIONS:** Piracetam as an adjuvant to speech therapy improves recovery of various language functions, and this effect is accompanied by a significant increase of task-related flow activation in eloquent areas of the left hemisphere.

Publication Types:

Clinical Trial

Randomized Controlled Trial

PMID: 10978039 [PubMed - indexed for MEDLINE]

31: Brain Lang. 2000 Sep;74(2):141-56.

An open-label trial of bromocriptine in nonfluent aphasia: a qualitative analysis of word storage and retrieval.

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Anomia is a commonly found in aphasia and has been attributed to a loss of representations (storage deficit) or to a loss of access to these representations (retrieval deficit). Bromocriptine, a dopamine agonist, was tested on four patients, two men and two women, with nonfluent aphasia. The patients were tested in an open-label ABBA design using a stochastic model that measured the degree of storage and retrieval deficits. All patients showed significant improvements in word retrieval. Bromocriptine may be a useful adjunct in the treatment of selected patients with a nonfluent aphasia in which retrieval deficits play a major role. Copyright 2000 Academic Press.

Publication Types:

Case Reports
Clinical Trial

PMID: 10950911 [PubMed - indexed for MEDLINE]

32: *Neurol Sci.* 2000 Feb;21(1):19-22.

Bromocriptine and speech therapy in non-fluent chronic aphasia after stroke.

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The objectives of this study were to investigate the efficacy of bromocriptine (BR) combined with speech therapy (ST) to improve a late recovery in non-fluent aphasic stroke patients. We performed a double-blind study with high dosage of BR, prescribed according to a dose-escalating protocol, comprehensive of clinical data, relatives' impression, and language evaluations. The study was divided into the following phases: t-0, inclusion; t-30, language re-test to evaluate the stability of aphasia; t-90, placebo (PL) and ST; t-150, BR and ST; t-210, BR; t-270, wash-out. With respect to the baseline assessment, a significant improvement was observed in the following tests: dictation (F, 4.8; $p < .004$), reading-comprehension (F, 8.1; $p < .0003$), repetition (F, 3.8; $p < .01$) and verbal latency (F, 4.9; $p < .01$). High dosage of BR promoted a late recovery in stable chronic non-fluent aphasia and this improvement was enhanced by combination with ST.

Publication Types:
Clinical Trial

PMID: 10938198 [PubMed - indexed for MEDLINE]

33: *Brain Inj.* 2000 May;14(5):441-53.

Communication abilities and work re-entry following traumatic brain injury.

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This exploratory study was completed to determine if communication measures could discriminate employed from unemployed individuals with traumatic brain injury (TBI). Twenty adults with TBI participated, 10 employed and 10

unemployed; subjects in both groups were 1-4 years post-injury, with comparable severity of injury and type of work. Subjects were administered communication tests measuring auditory processing, effects of speaking under time pressure, production of oral language, and functional verbal reasoning ability. An aphasia test and a functional outcome measure were also administered. Results revealed that a combination of three tests, one test of functional verbal reasoning and two tests of auditory processing, correctly classified 85% of subjects as employed or unemployed. Tasks that were impairment- and disability-based appear to be more related to outcome than impairment-level tasks alone. Impairment and disability level communication tasks may provide functional and practical information, which could assist in work re-entry.

Publication Types:

Clinical Trial

PMID: 10834339 [PubMed - indexed for MEDLINE]

34: Arch Phys Med Rehabil. 2000 Apr;81(4):379-88.

The rehabilitation of limb apraxia: a study in left-brain-damaged patients.

Smania N, Girardi F, Domenicali C, Lora E, Aglioti S.

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OBJECTIVE: To assess the effectiveness of a rehabilitative training program for patients with limb apraxia. **DESIGN:** Randomized, controlled trial. **SETTING:** Neurologic rehabilitation unit of a university hospital. **PATIENTS:** Thirteen patients with acquired brain injury and limb apraxia (lasting more than 2 months) as a result of lesions involving the left cerebral hemisphere. Patients were assigned to a study group or to a control group following a randomization scheme. The study group underwent an experimental training for limb apraxia. The control group received conventional treatment for aphasia. **INTERVENTION:** A behavioral training program consisting of gesture-production exercises. The rehabilitative program was made up of 3 sections dedicated to the treatment of gestures with or without symbolic value and related or nonrelated to the use of objects. Thirty-five experimental sessions, each lasting 50 minutes, were given. **MAIN OUTCOME MEASURES:** Neuropsychologic tests for assessment of aphasia, verbal comprehension, "general intelligence," oral apraxia, constructional apraxia, and 3 tests concerning limb praxic function (ideational apraxia, ideomotor apraxia, gesture recognition). Scores related to each test were used to measure the outcome. Video recordings of ideational and ideomotor apraxia tests allowed us to register type and number of praxic errors. All outcome measures, except the

aphasia test, were recorded before and after the experimental (or control) treatment time interval. **RESULTS:** The patients in the study group achieved a significant improvement of performance in both ideational ($p = .039$) and ideomotor ($p = .043$) apraxia tests. They also showed a significant reduction of errors in ideational ($p = .001$) and ideomotor ($p < .001$) apraxia tests. A trend toward improvement was found in the gesture comprehension test ($p = .058$), while other outcome measures did not show any significant amelioration. Control patients did not show any significant change in performance. **CONCLUSIONS:** The results show the possible effectiveness of a specific training program for the treatment of limb apraxia.

Publication Types:

Clinical Trial

Randomized Controlled Trial

PMID: 10768524 [PubMed - indexed for MEDLINE]

35: Cerebrovasc Dis. 2000 Jan-Feb;10(1):25-32.

One-year follow-Up in stroke patients discharged from rehabilitation hospital.

Paolucci S, Grasso MG, Antonucci G, Troisi E, Morelli D, Coiro P, Bragoni M.

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This study was designed to evaluate functional status at a 1-year follow-up in consecutive first-stroke patients after discharge from rehabilitation hospital and to identify reliable prognostic factors associated with changes in their abilities. Functional evaluation was made of consecutive patients 1 year after discharge to their own homes. Two multiple logistic regressions (forward stepwise) were performed using both improvement and worsening of the Barthel Index score between discharge and follow-up as dependent variables. Independent variables were medical, demographic and social factors. The final sample included 157 out of 172 patients. During the follow-up, 10 patients (5.81%) died because of a new cerebrovascular event, 1 patient died of myocardial infarction, 2 patients had new strokes and 2 fractured their paretic legs. Functionally, 43.3% of the patients maintained the level they achieved during inpatient rehabilitation treatment, 23.6% improved and the remaining 33.1% worsened. Patients with hemineglect and aged ≥ 65 years had a higher probability of functional worsening (odds ratio, OR = 3.77, 95% confidence interval, CI = 1.42-10.0 and OR = 3.93, 95% CI = 1.72-8.95, respectively). Postdischarge rehabilitation (performed for 46.5% of the final sample) was significantly and positively associated with functional improvement (OR = 7.23, 95% CI = 2.89-18.

05), and its absence with functional worsening (OR = 12.32, 95% CI = 4.47-37.01). In conclusion, in nearly half of the cases, functional status was still not stabilized at the time of discharge from the rehabilitation hospital. Postdischarge outpatient treatment was useful for preventing worsening of the functional ability achieved during inpatient treatment and increased the possibility of further functional improvement. Age ≥ 65 years and hemineglect were predictors of functional worsening at follow-up. Copyright 2000 S. Karger AG, Basel

Publication Types:
Clinical Trial

PMID: 10629343 [PubMed - indexed for MEDLINE]

36: J Speech Lang Hear Res. 1999 Apr;42(2):411-9.

The efficacy of group communication treatment in adults with chronic aphasia.

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We examined the effects of group communication treatment on linguistic and communicative performance in adults with chronic aphasia. Participants were randomly assigned to two treatment and two deferred treatment groups. Groups were balanced for age, education level, and initial aphasia severity. Twenty-four participants completed the 4-month treatment trial. While in the treatment condition, all participants received 5 hours of group communication treatment weekly, provided by a speech-language pathologist. The focus of treatment included increasing initiation of conversation and exchanging information using whatever communicative means possible. While awaiting group communication treatment, participants in the deferred treatment groups engaged in such activities as support, performance, or movement groups in order to control for the effects of social contact. Linguistic and communicative measures were administered to all participants at entry, after 2 and 4 months of treatment, and following 4 to 6 weeks of no treatment. In addition, participants in the deferred treatment groups received an additional administration of all measures just before their treatment trial. Results revealed that participants receiving group communication treatment had significantly higher scores on communicative and linguistic measures than participants not receiving treatment. In addition, significant increases were revealed after 2 months of treatment and after 4 months of treatment. No significant decline in performance occurred at time of follow-up.

Publication Types:

Clinical Trial

Randomized Controlled Trial

PMID: 10229456 [PubMed - indexed for MEDLINE]

37: Brain. 1999 Mar;122 (Pt 3):561-6.

Language outcome following multiple subpial transection for Landau-Kleffner syndrome.

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Landau-Kleffner syndrome is an acquired epileptic aphasia occurring in normal children who lose previously acquired speech and language abilities. Although some children recover some of these abilities, many children with Landau-Kleffner syndrome have significant language impairments that persist. Multiple subpial transection is a surgical technique that has been proposed as an appropriate treatment for Landau-Kleffner syndrome in that it is designed to eliminate the capacity of cortical tissue to generate seizures or subclinical epileptiform activity, while preserving the cortical functions subserved by that tissue. We report on the speech and language outcome of 14 children who underwent multiple subpial transection for treatment of Landau-Kleffner syndrome. Eleven children demonstrated significant postoperative improvement on measures of receptive or expressive vocabulary. Results indicate that early diagnosis and treatment optimize outcome, and that gains in language function are most likely to be seen years, rather than months, after surgery. Since an appropriate control group was not available, and that the best predictor of postoperative improvements in language function was that of length of time since surgery, these data might best be used as a benchmark against other Landau-Kleffner syndrome outcome studies. We conclude that multiple subpial transection may be useful in allowing for a restoration of speech and language abilities in children diagnosed with Landau-Kleffner syndrome.

Publication Types:

Clinical Trial

PMID: 10094262 [PubMed - indexed for MEDLINE]