Assignment #2:  
Read the attached article abstract that pertains to your discipline. Discuss whether or not you think the evidence presented is worth using (reliable, accurate, valid, etc.). Then discuss the results to determine if they are meaningful and useful (make a difference, clinically or statistically significant, precise, etc).

Clinical Questions:

PA/Pharmacy: Is Clopidrogel more effective than ASA-Dyprimdole in preventing recurrent stroke?

Dental: Is there an inherent risk for stoke after dental manipulations?

PT: Is there improved upper extremity function in a post-stroke patient using Constraint-Induced Movement Therapy

OT: What are the Best Practices for the psychosocial experiences in post stroke patients?

PPS: What is the prevalence of dementia in post stoke patients?
Aspirin and Extended-Release Dipyridamole versus Clopidogrel for Recurrent Stroke


Abstract (Summary): Background: Recurrent stroke is a frequent, disabling event after ischemic stroke. This study compared the efficacy and safety of two antiplatelet regimens -- aspirin plus extended-release dipyridamole (ASA-ERDP) versus clopidogrel. Methods: In this double-blind, 2-by-2 factorial trial, we randomly assigned patients to receive 25 mg of aspirin plus 200 mg of extended-release dipyridamole twice daily or to receive 75 mg of clopidogrel daily. The primary outcome was first recurrence of stroke. The secondary outcome was a composite of stroke, myocardial infarction, or death from vascular causes. Sequential statistical testing of noninferiority (margin of 1.075), followed by superiority testing, was planned. Results: A total of 20,332 patients were followed for a mean of 2.5 years. Recurrent stroke occurred in 916 patients (9.0%) receiving ASA-ERDP and in 898 patients (8.8%) receiving clopidogrel (hazard ratio, 1.01; 95% confidence interval [CI], 0.92 to 1.11). The secondary outcome occurred in 1333 patients (13.1%) in each group (hazard ratio for ASA-ERDP, 0.99; 95% CI, 0.92 to 1.07). There were more major hemorrhagic events among ASA-ERDP recipients (419 [4.1%]) than among clopidogrel recipients (365 [3.6%]) (hazard ratio, 1.15; 95% CI, 1.00 to 1.32), including intracranial hemorrhage (hazard ratio, 1.42; 95% CI, 1.11 to 1.83). The net risk of recurrent stroke or major hemorrhagic event was similar in the two groups (1194 ASA-ERDP recipients [11.7%], vs. 1156 clopidogrel recipients [11.4%]; hazard ratio, 1.03; 95% CI, 0.95 to 1.11). Conclusions: The trial did not meet the predefined criteria for noninferiority but showed similar rates of recurrent stroke with ASA-ERDP and with clopidogrel. There is no evidence that either of the two treatments was superior to the other in the prevention of recurrent stroke. (ClinicalTrials.gov number, NCT00153062.) [PUBLICATION ABSTRACT]

Methods: The Prevention Regimen for Effectively Avoiding Second Strokes (PRoFESS) trial was a 2-by-2 factorial, double-blind, active and placebo-controlled study of the fixed combination of low-dose aspirin (25 mg) and extended-release dipyridamole (200 mg) given twice daily as compared with clopidogrel (75 mg) given once daily, and of telmisartan (80 mg once daily) as compared with placebo, in patients with a recent ischemic stroke. This article focuses on the antiplatelet comparison within the factorial design. The antiplatelet part of the factorial design was initially intended to compare clopidogrel plus aspirin with aspirin plus extended-release dipyridamole. The design was modified, after 2027 patients were randomly assigned, when the Management of Atherothrombosis with Clopidogrel in High-Risk Patients with Recent TIA or Ischemic Stroke (MATCH) trial demonstrated an increased risk of bleeding with the combination of clopidogrel and aspirin. Patients initially assigned to receive clopidogrel plus aspirin had been treated for up to 8 months before they were switched to clopidogrel alone at the time of the protocol amendment; 18,305 patients were subsequently randomly assigned to receive aspirin plus extended-release dipyridamole or clopidogrel alone.

Details of the trial design have been published previously. The steering committee designed and oversaw the trial; data management was performed by the sponsor (Boehringer Ingelheim). A trial management committee, with representatives from the steering committee and the sponsor, met regularly to evaluate progress. The cochairs and the members of the steering committee had complete access to the trial data and prepared the final manuscript, and they vouch for the design, the final statistical analysis, and the completeness, accuracy, and interpretation of the data. The final statistical analyses were conducted simultaneously by the independent statisticians at the Medical University of South Carolina (who provided data and interim analysis reports to the data and safety monitoring committee) and the statisticians from Boehringer Ingelheim.

Randomization and Treatment: Eligible and consenting patients were randomly assigned, through a central telephone randomization system, to receive either aspirin (25 mg) plus extended-release dipyridamole (200 mg) twice daily or clopidogrel (75 mg daily) and telmisartan (80 mg daily) or placebo. Patients were evaluated in the hospital at the time of discharge or at 1 week after discharge and then at 1, 3, and 6 months and every 6 months thereafter.
BACKGROUND: Treatment of periodontal disease may reduce cardiovascular risk in the longer term, but studies have suggested a link among dental procedures, acute inflammation, and endothelial dysfunction. However, whether such acute inflammatory effects translate into a short-lived increased risk for vascular events is not known. **OBJECTIVE:** To investigate whether invasive dental treatment transiently increases the risk for vascular events. **SETTING:** Data came from the U.S. Medicaid claims database. **PATIENTS:** All persons exposed to invasive dental treatment with a primary hospital discharge diagnosis of ischemic stroke (n = 650) or myocardial infarction (n = 525) from 2002 to 2006. **MEASUREMENTS:** The incidence of ischemic stroke and myocardial infarction in periods immediately after invasive dental treatment was compared with the incidence in all other observed time periods. Incidence ratios and 95% CIs were calculated. **RESULTS:** The rate of vascular events significantly increased in the first 4 weeks after invasive dental treatment (incidence ratio, 1.50 [95% CI, 1.09 to 2.06]) and gradually returned to the baseline rate within 6 months. The positive association remained after exclusion of persons with diabetes, hypertension, or coronary artery disease or persons with prescriptions for antiplatelet or salicylated drugs before treatment. **LIMITATIONS:** Power to examine the effects of invasive dental treatment on stroke and myocardial infarction separately was limited because of the low frequency of invasive dental procedures. Lack of information about use of over-the-counter drugs limited the ability to assess confounding by possible withholding of antiplatelet or salicylated drugs before invasive dental treatment or by the use of nonsteroidal anti-inflammatory drugs after treatment. **CONCLUSION:** Invasive dental treatment may be associated with a transient increase in the risk for vascular events. However, the absolute risks are minimal, and the long-term benefits on vascular health will probably outweigh the short-lived adverse effects.
Population: Those who had a CVA >1 year who have some hand function

Intervention: Constraint induced therapy

Comparison: Standard care without constraint

Outcome: Hand function and use.

Effect of Constraint-Induced Movement Therapy on Upper Extremity Function 3 to 9 Months After Stroke
Steven L. Wolf, PhD, PT et al. JAMA. 2006;296:2095-2104 www.jama.com

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Context Single-site studies suggest that a 2-week program of constraint-induced movement therapy (CIMT) for patients more than 1 year after stroke who maintain some hand and wrist movement can improve upper extremity function that persists for at least 1 year.

Objective To compare the effects of a 2-week multisite program of CIMT vs usual and customary care on improvement in upper extremity function among patients who had a first stroke within the previous 3 to 9 months.

Design and Setting The Extremity Constraint Induced Therapy Evaluation (EXCITE) trial, a prospective, single-blind, randomized, multisite clinical trial conducted at 7 US academic institutions between January 2001 and January 2003.

Participants Two hundred twenty-two individuals with predominantly ischemic stroke.

Interventions Participants were assigned to receive either CIMT (n=106; wearing a restraining mitt on the less-affected hand while engaging in repetitive task practice and behavioral shaping with the hemiplegic hand) or usual and customary care (n=116; ranging from no treatment after concluding formal rehabilitation to pharmacologic or physiotherapeutic interventions); patients were stratified by sex, prestroke dominant side, side of stroke, and level of paretic arm function.

Main Outcome Measures The Wolf Motor Function Test (WMFT), a measure of laboratory time and strength-based ability and quality of movement (functional ability), and the Motor Activity Log (MAL), a measure of how well and how often 30 common daily activities are performed.

Results From baseline to 12 months, the CIMT group showed greater improvements than the control group in both the WMFT Performance Time (decrease in mean time from 19.3 seconds to 9.3 seconds [52% reduction] vs from 24.0 seconds to 17.7 seconds [26% reduction]; between-group difference, 34% [95% confidence interval {CI}, 12%-51%]; P=.001) and in the MAL Amount of Use (on a 0-5 scale, increase from 1.21 to 2.13 vs from 1.15 to 1.65; between-group difference, 0.43 [95% CI, 0.05-0.80]; P=.001) and MAL Quality of Movement (on a 0-5 scale, increase from 1.26 to 2.23 vs 1.18 to 1.66; between-group difference, 0.48 [95% CI, 0.13-0.84]; P=.001). The CIMT group achieved a decrease of 19.5 in self-perceived hand function difficulty (Stroke Impact Scale hand domain) vs a decrease of 10.1 for the control group (between-group difference, 9.42 [95% CI, 0.27-18.57]; P=.05).

Conclusion Among patients who had a stroke within the previous 3 to 9 months, CIMT produced statistically significant and clinically relevant improvements in arm motor function that persisted for at least 1 year.

METHODS

Study Organization Seven clinical sites participated in this study. Each site attempted to recruit 40 adults who had experienced a stroke in the previous 3 to 9 months. Participants had a first-time clinical ischemic or hemorrhagic cerebrovascular accident, as ascertained from neuroimages or written medical reports during the screening procedure, and met either higher- or lower-functioning motor criteria derived from Wolf. Participants were randomly assigned to the experimental (CIMT) or control condition using an automated, centralized system.

The control condition was usual and customary care. Participants in the intervention group were taught to apply an instrumented protective safety mitt and encouraged to wear it on their less-impaired upper extremity for a goal of 90% of their waking hours over a 2-week period, including 2 weekends, for a total of 14 days. On each weekday, participants received shaping (adaptive task practice) and standard task training of the paretic limb for up to 6 hours per day.
OCCUPATIONAL THERAPY


Abstract: This Best Practice Information Sheet aims to synthesize the best available evidence on the psychosocial and spiritual experiences of elderly individuals recovering from a stroke. The information that is contained in this sheet has been derived from studies that were included in a systematic review conducted by The Joanna Briggs Institute. Stroke is a major cause of death and disability and the risk of experiencing a stroke increases with age. A wide range of issues that are related to the experience of a stroke, from the perspective of the patient, have been identified in the research literature. This information sheet focuses on qualitative evidence on the short-term and long-term recovery process from the perspective of the elderly person, with the intention of assessing the evidence that would guide nursing practice.

Table 1. Grades of recommendations

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<tr>
<th>Grade of recommendation</th>
<th>Feasibility</th>
<th>Appropriateness</th>
<th>Meaningfulness</th>
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<tbody>
<tr>
<td>A</td>
<td>Strong support that merits the application</td>
<td>Strong support that merits the application</td>
<td>Strong support that merits the application</td>
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<tr>
<td>B</td>
<td>Moderate support that warrants the application</td>
<td>Moderate support that warrants the application</td>
<td>Moderate support that warrants the application</td>
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<tr>
<td>C</td>
<td>Recommendation that should be noted</td>
<td>Recommendation that should be noted</td>
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OBJECTIVE

The purpose of this information sheet is to synthesize the best available evidence on the psychosocial and spiritual experiences of elderly individuals who are recovering from a stroke.

FINDINGS

A metasynthesis of the studies that were included in the review generated four synthesized findings. These synthesized findings were derived from 165 original study findings and were subsequently aggregated into 20 categories. The attribution of the findings to a category appears not to be mutually exclusive. The findings are presented in Figure 1.

DISCUSSION AND CONCLUSION

Stroke is an unexpected event, leading to confusion and fear, especially in the onset and early period following the stroke. Uncertainty about the diagnosis and a delay in seeking treatment are experienced in trying to understand the meaning of the symptoms. Many give up control to others and experience a split of body and mind.

Connectedness to others, spiritual connectedness, and relationships are influenced by the difficulties that are encountered in communication or social activities and can lead to a sense of isolation. Some find prayer to be a source of strength.

Reconstructing one’s life involves considerable psychological and physical work for the elderly and drawing on one’s sense of hope, inner strength, and other attitudes is required in order to adapt to the changes in one’s daily life activities, the use of physical aids, and new environments. For those with comorbidities, it is just one event in an ongoing life. For others, it is perceived as a life-altering event that involves profound changes in functioning and one’s sense of self, leading to discontinuity in one’s life. People have positive and negative perceptions of the degree of support that is provided by the healthcare system. A respectful approach, encouragement, and reassurance from health professionals are important to those who have experienced a stroke. The further implications for practice that emerged for healthcare professionals are covered in the following recommendations.

RECOMMENDATIONS (See Table 1)

Be sensitive to and acknowledge the overwhelming sense of terror and fear that are experienced in the early period (Grade A).

Facilitate all aspects of connection and communication with family and friends, as well as a spiritual connection, and be alert to signs of isolation in the recovery period (Grade A).

Recognize the huge amount of work, both psychological and physical, that is involved in the reconstruction of a life and consider a plan of care (Grade A).

Provide opportunities for elderly persons who are recovering from a stroke to discuss their perceptions of improvement or progress and how their life has changed (Grade B).

On a more general basis, consider the ways in which the healthcare system, healthcare routines, and healthcare practices support or do not support elderly persons who are recovering from a stroke (Grade B).
Prevalence, incidence, and factors associated with pre-stroke and post-stroke dementia: A systematic review and meta-analysis. [References].

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Background: Reliable data on the prevalence and predictors of post-stroke dementia are needed to inform patients and carers, plan services and clinical trials, ascertain the overall burden of stroke, and understand its causes. However, published data on the prevalence and risk factors for pre-stroke and post-stroke dementia are conflicting. We undertook this systematic review to assess the heterogeneity in the reported rates and to identify risk factors for pre-stroke and post-stroke dementia. Methods: Studies published between 1950 and May 1, 2009, were identified from bibliographic databases, reference lists, and journal contents pages. Studies were included if they were on patients with symptomatic stroke, were published in English, reported on a series of consecutive eligible patients or volunteers in prospective cohort studies, included all stroke or all ischaemic stroke, measured dementia by standard criteria, and followed up patients for at least 3 months after stroke. Pooled rates of dementia were stratified by study setting, inclusion or exclusion of pre-stroke dementia, and by first, any, or recurrent stroke. Pooled odds ratios were calculated for factors associated with pre-stroke and post-stroke dementia. Findings: We identified 22 hospital-based and eight population-based eligible cohorts (7511 patients) described in 73 papers. The pooled prevalence of pre-stroke dementia was higher (14.4%, 95% CI 12.0-16.8) in hospital-based studies than in population-based studies (9.1%, 6.9-11.3). Although post-stroke (<=1 year) dementia rates were heterogeneous overall, 93% of the variance was explained by study methods and case mix; the rates ranged from 7.4% (4.8-10.0) in population-based studies of first-ever stroke in which pre-stroke dementia was excluded to 41.3% (29.6-53.1) in hospital-based studies of recurrent stroke in which pre-stroke dementia was included. The cumulative incidence of dementia after the first year was little greater (3.0%, 1.3-4.7) per year in hospital-based studies than expected on the basis of recurrent stroke alone. Medial temporal lobe atrophy, female sex, and a family history of dementia were strongly associated with pre-stroke dementia, whereas the characteristics and complications of the stroke and the presence of multiple lesions in time and place were more strongly associated with post-stroke dementia. Interpretation: After study methods and case mix are taken into account, reported estimates of the prevalence of dementia are consistent: 10% of patients had dementia before first stroke, 10% developed new dementia soon after first stroke, and more than a third had dementia after recurrent stroke. The strong association of post-stroke dementia with multiple strokes and the prognostic value of other stroke characteristics highlight the central causal role of stroke itself as opposed to the underlying vascular risk factors and, thus, the likely effect of optimum acute stroke care and secondary prevention in reducing the burden of dementia. (PsycINFO Database Record (c) 2010 APA, all rights reserved)