

for the SF-12 were 52.7 for the physical dimension (PD) and 40.7 for the mental dimension (MD). The average score obtained on the BISS scale is 22.64 and a questionnaire to assess the perceived stress indicates a stress level of 19.01. At 14 days, the decrease in waistline was 1.66 cm ($p < 0.001$) and the symptoms score was 91 ($p < 0.05$). With regards to the scales dealing with QoL, average scores at D14 for SF-12 were 53 for PD and 43.4 for MD. Improvement of the mental dimension ($p = 0.02$). Average score obtained on the BISS scale is 26.34 ($p < 0.01$) Perceived stress level was 17.9 ($p < 0.003$). **CONCLUSIONS:** At the end of the 14 days, the reduction in waist circumference is statistically significant. We also noted an improvement in the overall symptoms score; an improvement that has been confirmed by an improvement of all symptoms.

HEALTH CARE INTERVENTIONS – Clinical Outcomes Studies

COMPARATIVE EFFECTIVENESS OF LOW INTENSITY PULSED ULTRASOUND VERSUS SHAM TREATMENT OF TIBIA FRACTURE IN PATIENTS WITH NONUNION: A DOUBLE-BLIND, MULTI-CENTER RANDOMIZED CONTROLLED TRIAL

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OBJECTIVES: Treatment with LIPUS results in greater increases in bone density and greater reductions in bone gap area as compared to sham control in tibia fractures with NU (no progression of healing for at least four months). Fractures that do not heal after several months represent significant clinical and economic burden to health care systems. Five to ten percent of all fractures are eventually classified as nonunions [NU], fractures that fail to heal or will not heal without intervention. Interventions include treatment by cast/brace, surgery, electrical stimulation, or low-intensity pulsed ultrasound [LIPUS]. **METHODS:** Two primary effectiveness variables, change of bone density and gap area during treatment, were selected as surrogates for bone healing. Abbreviated treatment period was maximum that sham treatment could be administered ethically. Both variables measured by blinded central reviewers from CT-scans taken before/after termination of treatment. All adverse events recorded, evaluated. Treatment duration was 16 weeks. Patients instructed to apply device once daily for 20 minutes. Control (sham) devices were visually identical but did not transmit ultrasound waves. Neither patients nor physicians could recognize shams. **RESULTS:** A total of 101 patients enrolled (51 LIPUS, 50 sham), mean age 42.6 (active) versus 45.1 years (sham). Based on log-transformed data, mean improvement in bone density was 1.34 (90% CI 1.14 to 1.57) times greater for patients randomized to LIPUS compared to sham ($p = 0.002$). A mean reduction in bone gap area also favored LIPUS treatment ($p = 0.014$). **CONCLUSIONS:** Double-blind, intent-to-treat analyses demonstrated statistically significant superior effectiveness for LIPUS device compared to sham in terms of both endpoints over 16 weeks of treatment. Estimated increase in bone density among patients randomized to LIPUS treatment was 34% greater than among patients randomized to sham. A significantly greater mean reduction in bone gap area after LIPUS treatment was also shown. Evaluation of adverse events showed that ultrasound therapy is safe.

HEALTH CARE INTERVENTIONS – Cost Studies

SOCIOECONOMIC STATUS AND COST OF CARE IN THE ELDERLY UNDERGOING MAJOR ORTHOPEDIC SURGERY

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OBJECTIVES: Socioeconomic status is associated with patients' health behaviors, health problems as well as the quality of care they receive. We examined data on U.S. elderly patients undergoing major orthopedic surgery to determine whether socioeconomic status was associated with cost of care for patients with similar access to health care provided by Medicare. **METHODS:** We used the 2004–2006 Medicare data to identify all patients undergoing major orthopedic surgery. We used previously constructed and validated SESScore™, which is a summary measure of socioeconomic status for each U.S. zip code, using data from the 2000 U.S. Census. We assessed the effect of SESScore™ on cost of care while controlling for other patient characteristics, and then examined the extent to which disparities in cost of care could be attributed to differences in hospital factors. Fixed effect models were used. **RESULTS:** SESScore™ was a significant predictor of cost of care for major orthopedic surgery. Comparing the lowest quintile of SESScore™ to the highest, the cost difference was positive and significant ($p = 0.000$). After further adjustment for hospital factors, the difference was reduced. Within hospitals, there were only small differences in adjusted cost of care by patients' socioeconomic status. **CONCLUSIONS:** When undergoing major orthopedic surgery, patients with a lower socioeconomic status have higher rates of cost of care than patients with a higher socioeconomic status, despite similar insurance coverage provided by Medicare.

PHC3

COST-EFFECTIVENESS ANALYSIS OF PIMOBENDAN COMPARED TO BENAZEPRIL FOR THE TREATMENT OF ACQUIRED MYXOMATOUS MITRAL VALVE DISEASE IN DOGS IN GERMANY

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OBJECTIVES: Myxomatous mitral valve disease (MMVD) presents a frequent heart problem in dogs. The inodilator pimobendan has shown to increase survival time of affected dogs when compared to the ACE inhibitor benazepril. The objective of this study was to estimate the cost-effectiveness of pimobendan compared to generic benazepril for treatment of MMVD in dogs in Germany. **METHODS:** A Markov model was developed to calculate costs and benefits of pimobendan and benazepril over a 1-year time horizon in dogs with MMVD on concurrent furosemide treatment. The model structure allowed for a differentiation in costs and transition probabilities between treatment start and maintenance treatment, and included the health states asymptomatic MMVD, symptomatic MMVD, treatment failure, euthanasia, and sudden death. Most transition probabilities were based on randomized controlled trials. Input-data on treatment pattern were derived from published literature, and cost data taken from official price and tariff lists (year 2008, perspective of the dog owner). Missing data were obtained from experts in canine cardiology. **RESULTS:** Over the 1-year time horizon, mean total therapy cost per dog on pimobendan was €463.55 versus € 284.29 for benazepril. Mean survival was 274 days and 129 days for dogs on pimobendan and benazepril, respectively; resulting in a cost of € 1.24 for each additional day of life on pimobendan. Mean costs per treatment day were lower with pimobendan (€ 1.69) when compared to benazepril (€ 2.20). Extensive one-way and probabilistic sensitivity analyses confirmed the robustness of the results. **CONCLUSIONS:** Pimobendan is a cost-effective treatment of MMVD if the dog owner is willing to pay a price below the normal range of food costs in Germany for each additional day of life. Lower total treatment costs for benazepril are merely attributed to a shorter survival, as pimobendan resulted in less costs per treatment day compared to benazepril.

PHC4

COST-EFFECTIVENESS OF PIMOBENDAN VERSUS BENAZEPRIL IN ACQUIRED MYXOMATOUS MITRAL VALVE DISEASE IN DOGS: AN ADAPTATION TO SWITZERLAND

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OBJECTIVES: Myxomatous mitral valve disease (MMVD) presents a frequent heart problem in dogs. The objective of this study was to estimate the cost-effectiveness of pimobendan compared to benazepril for treatment of MMVD in dogs in Switzerland. **METHODS:** A Markov model including the health states asymptomatic MMVD, symptomatic MMVD, treatment failure, euthanasia, and sudden death, was adapted to Switzerland. Costs (year 2008, perspective of the dog owner) and benefits (life days gained, time without symptoms of heart failure) were calculated over a 1-year time horizon for dogs on pimobendan or benazepril respectively, both on concurrent furosemide treatment. Most transition probabilities were based on randomized controlled trials. Missing data and input-data on treatment pattern were obtained from experts in canine cardiology. **RESULTS:** Mean survival over the 1-year time horizon was 274 days for dogs on pimobendan versus 129 days for dogs on benazepril. Time spent without any symptoms of heart failure was 86 days for pimobendan versus 15 days for benazepril. Mean total therapy cost per dog on pimobendan was CHF 905.68 versus CHF 546.52 for benazepril; resulting in a cost of CHF 2.48 for each additional day of life on pimobendan. Mean costs per treatment day were lower with pimobendan (CHF 3.31) compared to benazepril (CHF 4.24). Extensive one-way and probabilistic sensitivity analyses confirmed the robustness of the results. **CONCLUSIONS:** Pimobendan is a cost-effective treatment of MMVD if the dog owner is willing to pay a price within the normal range of food costs for each additional day of life. The results indicate a better quality of life of dogs on pimobendan, as they spent substantially more time without any symptoms of heart failure compared to dogs on benazepril. Lower total treatment costs for benazepril are merely attributed to a shorter survival, as pimobendan resulted in less costs per treatment day.

PHC5

CHOICE OF HEMOSTATIC AGENT AND HOSPITAL LENGTH OF STAY IN CARDIOVASCULAR SURGERY

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OBJECTIVES: Hemostatic agents (HAs) are efficacious in reducing blood loss during surgery, which may impact post-operative health care utilization and length of stay (LOS). The purpose of this study was to compare expected and actual LOS by choice of HA in cardiac procedures. **METHODS:** Hospital data were extracted from a large U.S. hospital-based, service-level comparative database. Procedures conducted between 2003 and 2006 were identified using principal ICD-9 codes and limited by Diagnostic Related Groups (DRGs). Four cohorts for comparison were Floseal, Surgicel+thrombin, Gelfoam+thrombin, and other. Expected LOS was derived using 2006 Centers for Medicare and Medicaid (CMS) geometric mean LOS by DRG and two-part regression models were created to assess outcome. **RESULTS:** A total of 36,950 discharges were included. Floseal use was associated with significantly less likelihood of exceeding the