Economics of Neurosyphilis Treatment: Inpatient versus Outpatient Management

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INTRODUCTION: The management of neurosyphilis entails intravenous penicillin for a 14 day course. For most symptomatic patients this requires hospitalization in addition to a peripherally inserted central catheter (PICC).[1] On the other hand, asymptomatic patients can opt for outpatient management. Rather than guidelines, decisions for hospitalization for asymptomatic neurosyphilis are driven more by issues surrounding access-to-care and the cost of healthcare.

It is our practice at UCSD Owen Clinic to admit patients with newly diagnosed neurosyphilis to start therapy immediately if they are with symptoms, or if there is a chance their insurance, or lack thereof, would prohibit them from prompt outpatient treatment.[2] Otherwise, there may be a delay in prompt outpatient treatment which includes scheduling an interventional radiology PICC placement and initiation of the first dose of therapy in a monitored setting in our Infusion Center prior to continuation through Home Health.

METHODS: We searched through the Owen Clinic Database for patients with ICD-9 Code 094.0-.9 for Neurosyphilis. We then reviewed the medical records of these patients who were narrowed to those had lumbar puncture results. There were 97 cases from 2003 - January 2013. Of these 97 patients, 41 total were identified as asymptomatic, 11/41 with negative CSF VDRL.

PRICES:

Medical Surgery Bed: $2017 daily

PICC Line Insertion: $1562

Miscellaneous Hospitalization Costs: Daily labs, physical examination daily by physician.

14 day course of iv penicillin: $178 per day

Outpatient Physician Visit: $95 for level 2, $157 for level 3. Most neurosyphilis visits are level 2 out of 5.

FIGURE 1: 56 out of 97 Patients were hospitalized

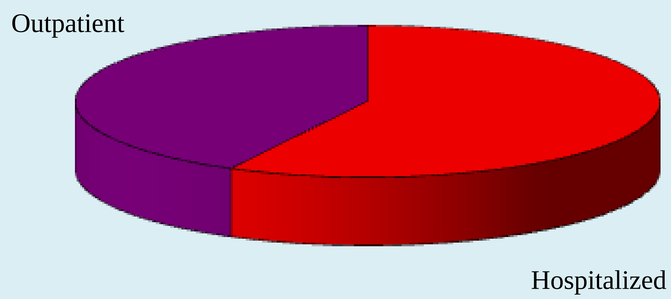


FIGURE 2: Average Number of Days Hospitalized

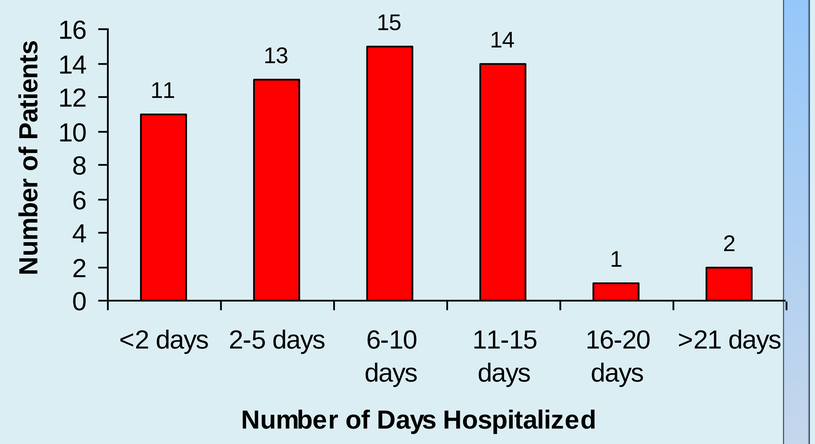
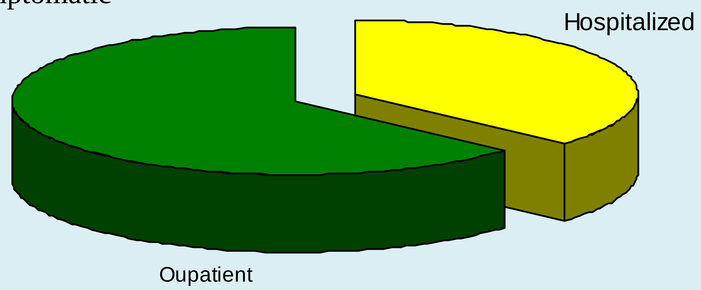


FIGURE 3: 15 out of 56 Hospitalized Patients were Asymptomatic



CONCLUSIONS: Neurosyphilis need not be treated inpatient if the patients are asymptomatic, or minimally symptomatic. A review of the Owen clinic patients at UCSD treated for neurosyphilis since 2006 demonstrate effective therapy on an outpatient basis for those without symptoms necessitating hospitalization. Hospitalization always comes with an added risk of complications, however the small patient size hospitalized who were asymptomatic had a low complication rate. We make the argument that the most striking reason to avoid hospitalizing asymptomatic individuals with neurosyphilis is rather one of cost, on the scale of thousands of dollars on an outpatient basis versus tens of thousands of dollars on an inpatient basis to receive the same treatment.

For those whom the health care system makes outpatient treatment an impossibility (those without insurance, or those whom prior authorization requirements would result in days of delay in care), we argue for a parsimony in ordering of labs and imaging if not necessary for the hospitalization. For example, ordering weekly labs instead of daily laboratory testing. With the impending health care reform, there has been an increase in focus on the cost of health care. It is up to the providers to keep cost in mind when ordering tests, and only through a better awareness of the costs can we begin to focus on reducing the burden the cost of health care has become on society.

References:

1. Parkes, R, Renton, A, and Meheus A. Review of Current Evidence and Comparison of Guidelines for Effective Syphilis Treatment in Europe. International Journal of STD & AIDS. 2004; 15: 73-88.
2. Moore, J and Hopkins, H, The Prognosis of Early and Late Asymptomatic Neurosyphilis. JAMA. 1930; 95: 1637-41.

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