

PURPOSE / OBJECTIVES

This quality improvement study has 2 aims:

- To assess the effectiveness of the current method of TB screening of pregnant women at TTUHSC –PB
- To assess the effectiveness of a newly instituted protocol using QuantiFERON®-TB Gold screening of pregnant women

MATERIAL & METHODS

A retrospective evaluation of prenatal TB screening practices at TTUHSC PB was conducted using the Cerner EMR. Charts were retrospectively surveyed for presence of TB risk assessment surveys and documentation of patients identified at risk for latent TB at first prenatal care visit. The charts were for documentation of referral of high-risk patients for TB screening at the Ector County Health Department. Numbers of patients at risk for TB and positive screens were recorded. Patients had QuantiFERON®-TB Gold serum screening for TB added to the battery of initial prenatal care labs starting November 1, 2019. Addition of this screening test will not require additional lab draws for the patient. Patients were counseled on positive serum screens and referred for appropriate follow up testing to rule out active TB via chest x-ray according to established clinical protocols. Patients with latent or active TB were referred to the Ector County Health Department for treatment according to established clinical protocols. Positive serum screens were documented, and the numbers used to calculate the prevalence of TB in the study population, pregnant patients at TTUHSC-PB. Numbers of positive screens pre and post introduction of QuantiFERON®-TB Gold screening were compared as a means of quantifying effectiveness of the new serum screening program in this population and the inherent quality improvement.

Screening patients for latent tuberculosis (TB) in pregnancy can be difficult to accomplish effectively. Tuberculin skin testing (TST) requires follow-up, and exposure to Bacille Calmette- Guerin (BCG) vaccination obfuscates TST. Screening patients decide who should be tested is time consuming for providers. Also, in medical centers where the population is mobile yet high risk, such as in West Texas, forgoing this testing could be detrimental leaving latent and active TB untreated. QuantiFERON®-TB Gold, a serum-based TB screening test, has recently been approved along with TST by the Centers for Disease Control (CDC) and the American College of Obstetricians and Gynecologists (ACOG) as appropriate screening tools for detection of latent tuberculosis in pregnant patients. Additionally, QuantiFERON®-TB Gold testing does not require follow up reading visit. QuantiFERON®-TB Gold results are not dependent on a subjective assessment of a skin reaction and are not altered by previous vaccination. QuantiFERON®-TB Gold, testing is covered by Medicaid and most insurances. Texas Tech University Health Sciences Center Permian Basin (TTUHSC-PB) Department of Obstetrics and Gynecology currently relies on identifying patients at increased risk for latent TB by survey to decide who will be referred for testing. Patients are then referred to the health department for TST and are then asked to bring back their TST result cards for entry into the patient record.



RESULTS

4255 new OB visits were documented from January 2019 to May 2020, 2216 prior to instituting QuantiFERON screening and 2039 after. No TB screens were documented in the period before QuantiFERON screening. 80 screens were obtained after initiating QuantiFERON testing at a rate of 4% utilization of the new quality intervention. 2 positive QuantiFERON results were obtained, a 2.5 % positive rate per 100 patients tested.

SUMMARY / CONCLUSION

This quality improvement measure has shown strength in its potential reduce maternal morbidity by identifying latent TB in our pregnant population and bringing about more timely and appropriate treatment and follow up for latent and active TB. However, low numbers of patients obtaining QuantiFERON screening during the study period point to workflow issues as a significant weakness of the quality intervention. We propose. There is a clear opportunity to address the weakness of the intervention by automating ordering of the QuantiFERON test at the first obstetrics visit along with the other “new ob” labs. With this adjustment of the TB screening initiative, we hope to provide valuable information on the prevalence of TB in our antenatal population as the data on positive screens are collected on an on-going basis.

References

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