Abstract

The study illustrates advantages of Fiberoptic Bronchoscopy, a new service started at St. Luke’s General Hospital in patient care since April 2014. Retrospective review of Bronchoscopies and referrals to Tertiary care unit for Bronchoscopy, prior and after initiation of service at St. Luke’s Hospital were studied. In total, 106 procedures were performed out of which 103(98%) were for diagnostic purpose. Common indications for bronchoscopy were functional airway assessment in 38 cases (35%) of chronic cough, 26 cases (24.8%) of suspected malignancy. The average time taken for procedure was $15 \pm 1$ minute with overall rate of complication recorded in 1 case (0.95%). 32(30%) inpatients were referred before bronchoscopy services were started locally. Fifteen (14%) patients were referred for Endobronchial Ultrasound (EBUS) after diagnostic procedure performed at St. Luke’s Hospital. To conclude, Bronchoscopy is a safe procedure used for diagnosis of various Lung conditions. The services offered locally reduced the time and cost involved in referrals. The diagnostic bronchoscopies performed for malignancy at St. Luke’s Hospital have rightly increased references for EBUS at Tertiary care Unit.

Introduction

Bronchoscopy has evolved as a commonly used diagnostic tool in pulmonary medicine. Flexible fiberoptic Bronchoscopy (FB) was initiated at St. Luke’s General Hospital in April 2014 and catered to service of patients since then. The aim of our study is to discuss the benefits of conducting FB at our General Hospital in terms of better patient management and reduction of referral time and expenditures incurred in referring patients to units at the tertiary care centre.

Methods

We retrospectively analysed the bronchoscopy procedures and related patient data, performed at St.
Luke's General Hospital over a duration of 1 year (April 2014-2015). Demographics of patients e.g. age, gender, were studied. Patients rendered services were classified as Inpatient/outpatient. Indications for procedure, time taken, rate of medication used for sedation, any complications related to bronchoscopy were recorded. Referrals for bronchoscopy to tertiary care before and after the services were started at St. Luke’s General Hospital were analysed.

**Figure 1**

![Indications for Bronchoscopy](image)

**Results**

A total of 106 procedures were performed, 98% being for diagnostic purpose. To begin with, between two and four procedures were conducted per month, eventually increasing to 8-16 procedures per month. Sixty-six percent (2/3) of procedures were performed on outpatients. Mean age of patient that underwent Bronchoscopy was 66 + or - 8 years, 51 (48%) were males and 55 (52%) females. Thirty-seven (35%) of the diagnostic bronchoscopies were performed for functional airway assessment in chronic cough followed by 26 (24.8%) suspected malignancy and 23 (22%) abnormal radiology, while 2% of therapeutic indications were foreign body removal and clearing of airways in patient on
ventilator. Mean rate of sedatives used were Midazolam 3.84 mg & Fentanyl 40.63 mcg. The average
time taken for procedure being 15 + or - 1 minute with overall rate of complication 0.95%, which was
minor bleeding (< 50 ml) during the procedure. In 2013, before commencement of service at St. Luke’s
Hospital, 32 Patients were referred to tertiary unit for bronchoscopy procedures.15 patients were
referred for EBUS as a staging procedure at a tertiary Unit, following diagnostic bronchoscopy for
malignancies at St. Luke’s Hospital.

Discussion

The increasing demand for bronchoscopy as a diagnostic and therapeutic tool as evidenced by our
study supports the vital role of Bronchoscopy service availability in a peripheral Hospital. In accordance
with studies conducted earlier, Diagnostic Bronchoscopy were commonly indicated in cases of
Suspected Malignancy and chronic cough. In compliance with European Respiratory society studies, it is
found to be relatively a safe procedure performed in elderly population, equal number in both sexes
using minimal dose of sedation with low rate of complications. Most of the procedures were conducted
on day care basis. This reduced on Hospital stay and bed occupancy. Services offered have reduced
the referrals to Tertiary Care Centre for Bronchoscopy procedures. The cost of a bronchoscopy
procedure is €725 while on referral the cost mounted to € 1,588 per procedure, as it included the
ambulance charge for transferring the patient. It not only saved time on referral but also expenses
involved in patient Care, thereby providing a cost effective plus efficient new local service. It also
reduced estimated length of time for patients awaiting Bronchoscopy procedure. Diagnostic
Bronchoscopies for Malignancy at St. Luke’s Hospital is important for EBUS referrals as a staging
procedure to a tertiary unit. EBUS is a further advanced bronchoscopic technique that uses ultrasound
to visualise structures within airway wall & lung. It has obviated the need for major invasive
Mediastinoscopy and widely used for staging of Lung cancers.

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