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Minor Surgery in Primary Care; Audit Report

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Background

As the world population is increasing, the workload on healthcare services is also increasing massively world-wide. Several countries are now developing NHS like healthcare delivery models with primary care service providers and secondary care hospitals. There are several competent clinicians working in primary care settings with high quality surgical skills. This is a good opportunity for such countries like Qatar and many other Middle East states to identify primary care physicians with surgical background and qualifications. These clinicians can be asked to help reduce the burden on secondary care institutions by taking up most of the minor surgical work in the primary care setting. This cost-effective service will help both in enhancing patients' satisfaction as well as reducing the workload on the secondary care hospital (J Botting et al, 2016).

The Audit

A retrospective study was performed on the data from two UK-based primary care practices of all the patients who underwent minor operations under local anaesthesia by the authors.

Aims and Objectives

Aims of the audit were to study the rate of complications and the safety of performing minor surgery in primary care settings and to compare with any available standards in primary or secondary care settings.

The objective of the study was to identify if performing minor surgery in primary care settings was safe and cost-effective and if it could help reduce burden on secondary care hospitals.

Standards

There a number of articles published highlighting the requirements to start minor surgery in primary care or how to demonstrate compliance with clinical governance. Only one article by J Botthing (2016) described the complication rate as less than 2%. Hence, a standard of 2% was chosen to compare against.

Method

All 3 studies were retrospective to minimize bias.

First a small amount of data over a period of 3 months (Jan-Mar 2016), of n = 151 patients was studied and the incidence rate of complications was established. At the same time the causes for complications were identified and suggestions for improvement were made.

In the next cycle a relative bigger sample over 7 months (May-Nov 2016), n = 190 patients were analysed and improvement in the practice was demonstrated.

In the final step, a large amount of data, based over more than 3 years, n = 1,834 patients were analysed which included the data from the previous 2 cycles as well. Hence, an overall complication rate was calculated.

Further suggestions were made to continue improving the services.

Suggestions were made for other healthcare systems to take an initiative to find the clinicians with suitable surgical skills and establish community-based minor surgery services to help reduce burden on secondary care and save healthcare budget funds.

Results

First Cycle: Jan to Mar 2016, N = 151.

Procedure Types	Numbers	Complications	Percentage
Joint Injections	31	0	
Exc of Skin Tags	26	0	
I+D abscesses	4	0	
Aspiration of Quinsy (peri-tonsillar abscess)	1	0	
Aspiration of Ganglions	4	0	
Exc of Seb. Cysts	16	0	
Moles	19	0	
Ingrowing Toe Nails	6	1	Bleeding
Seb. Keratosis	21	1	Bleeding
Skin Biopsies	4	0	
WLE	13	0	
Lipomas	6	0	
Total Cases	151	2	1.3%

Table 1

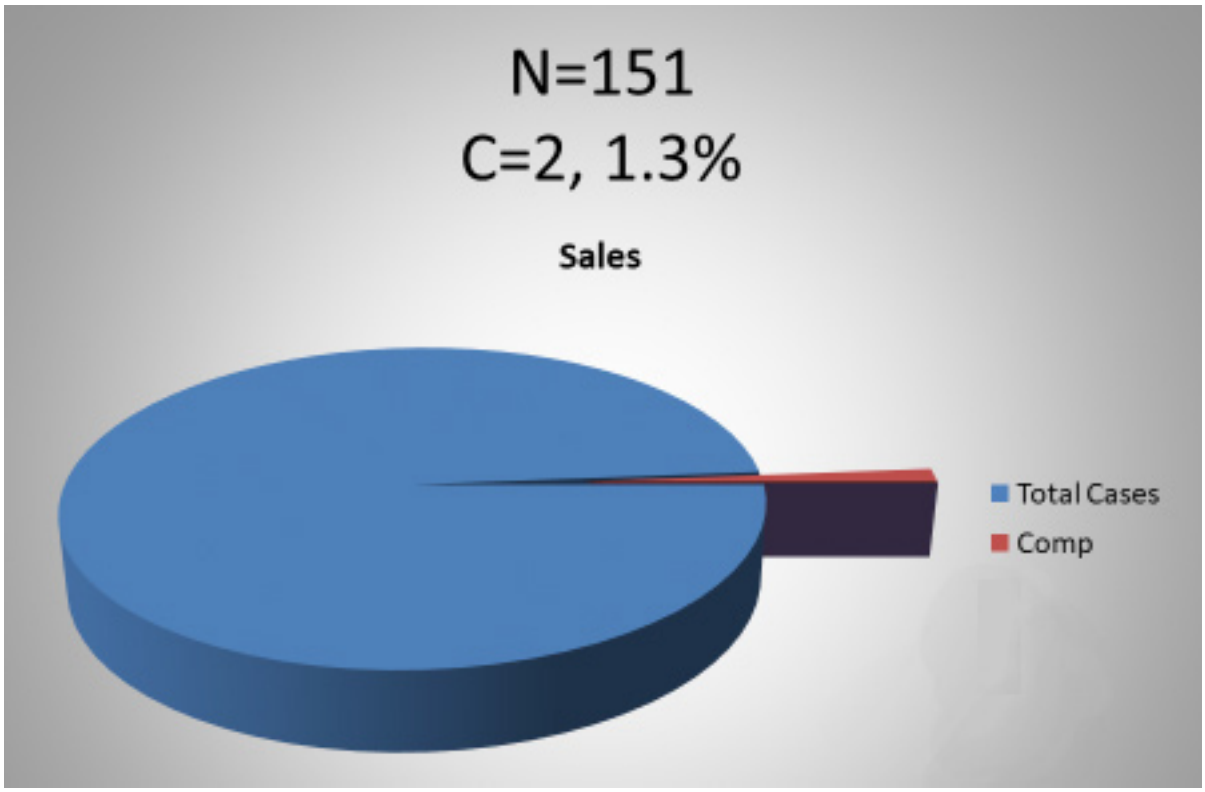

Figure 1

The complication rate was 1.3% and the causes for these complications were identified by looking back into the event (Significant Event Analysis process). The following facts were identified:

1. Inadequate bandage technique by the assistant nurse who did not have proper training on how to put a bandage on great toe after nail excision. The process was not supervised by the surgeon either. This required re-application of the bandage by the surgeon himself (author).
2. Patient was listed by other GP who was not the surgeon, and patient was not given instructions to hold his Aspirin and Clopidogrel 3 days prior to surgery. This required electro-cautery to control bleeding by the surgeon (author).

Suggestions made:

1. Training to be delivered to the assisting nurse, on how to properly apply the bandage after toe nail surgery. Process to be observed by the surgeon every time until the nurse feels competent and the surgeon is happy with the competency of the nurse.
2. Pre-operative instructions regarding anti-coagulants and anti-platelets were added to the consent form and it was communicated amongst the team to educate patients regarding this while consenting. Hand over the copy of the consent form with instructions to the patient.

Second Cycle: May to Nov 2016, N = 190.

Procedure Types	Numbers	Complications	Percentage
Joint Injections	101	0	
Exc of Skin Tags	8	0	
I+D abscesses	3	0	
Aspiration of Quinsy (peri-tonsillar abscess)	0	0	
Aspiration of Ganglions	2	0	
Exc of Seb. Cysts	12	0	
Moles	15	0	
Ingrowing Toe Nails	8	0	
Seb. Keratosis	14	0	
Skin Biopsies	6	0	
WLE	18	0	
Lipomas	3	0	
Total	190	0	0.00%

Table 2

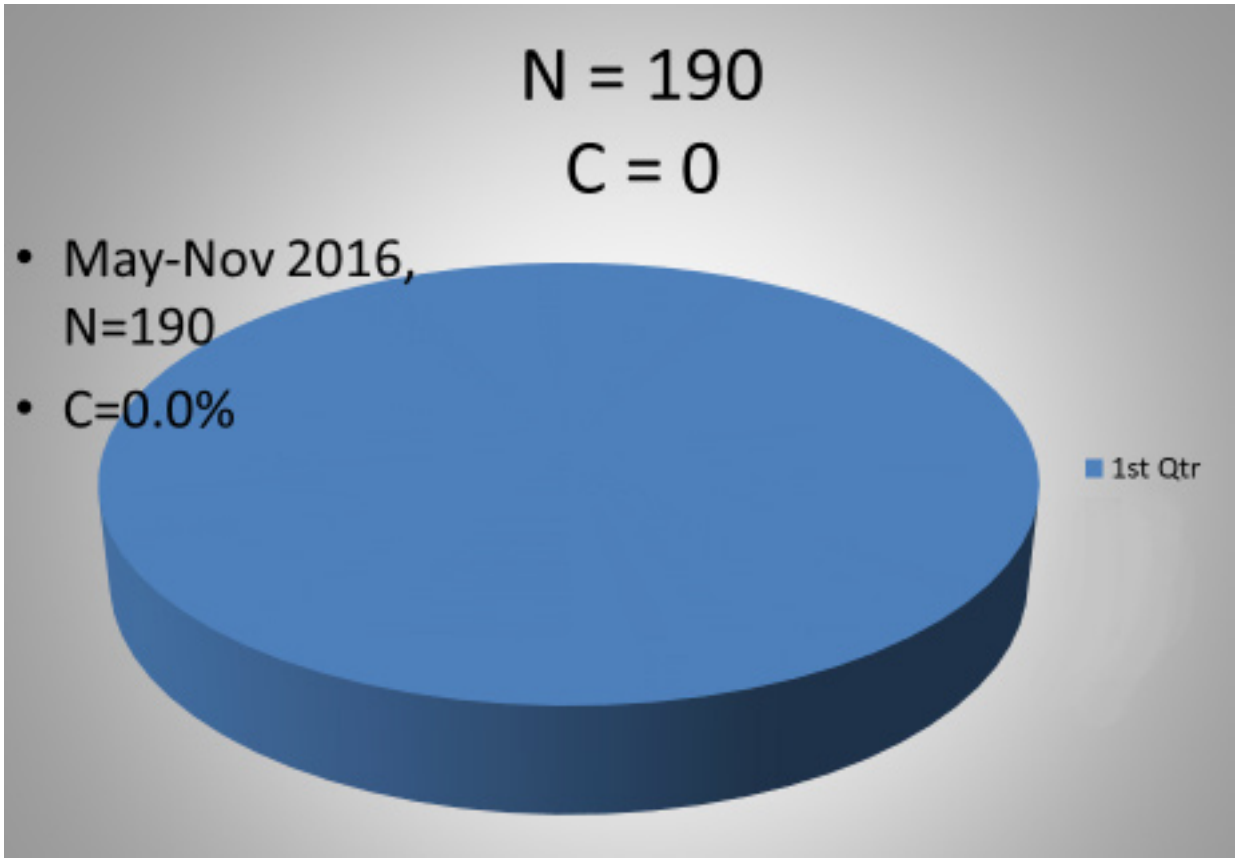

Figure 2

Although, it was a small sample yet a clear improvement was demonstrated by following the suggestions made in the first cycle.

Then a decision was made to conduct a large study based on data over 3 years.

This study:

Large Audit: Jun 2015 to Aug 2918, N = 1834.

This audit included the data from the other two smaller studies as well. So an overall complication rate was established in this study.

Procedure Types	Numbers	Complications	Percentage
Joint Injections	397	0	
Exc of Skin Tags	201	0	
I+D abscesses	45	0	
Aspiration of Quinsy (peri-tonsillar abscess)	4	0	
Aspiration of Ganglions	16	0	
Exc of Seb. Cysts	159	0	
Moles	266	0	
In-growing Toe Nails	27	1	3.70%
Seb. Keratosis	229	1	0.43%
Skin Biopsies	186	0	
WLE	254	1	0.39%
Lipomas	50	0	
Total	1834	3	0.16%

Table 3

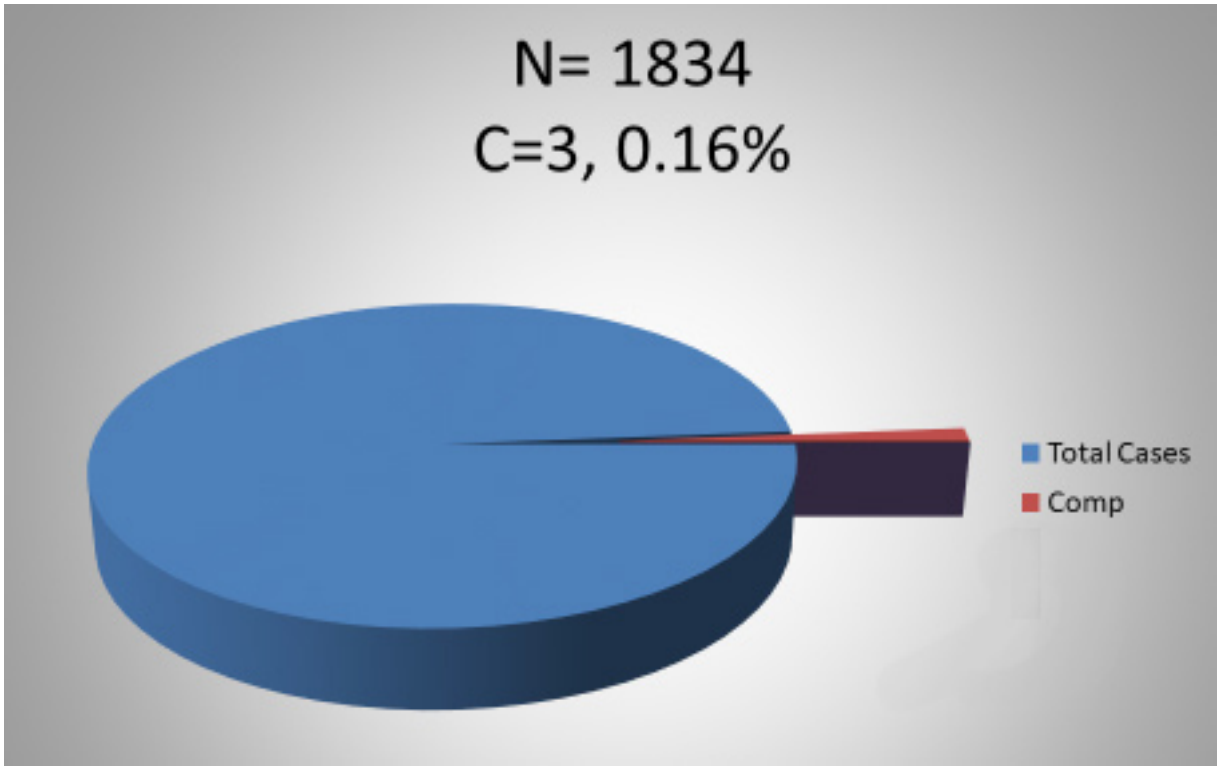

Figure 3

An overall complication rate was calculated as 0.16% which is well below the complication rate described by the other large study by J Botting (2016), as less than 2%.

All the wide local excision (WLE) cases had complete excision of Basal Cell Carcinomas as well as Squamous Cell Carcinomas. One lesion of BCC was operated on in secondary care which showed marginal excision and as expected, it recurred. This was then re-excised by the first author. The histology report confirmed complete excision.

One WLE involved muscle cutting as well. This was not a suitable procedure to be carried out in the primary care setting as patient had multiple co-morbidities, however, patient declined to go to hospital for that procedure and with informed consent this suspected SCC lesion was excised. Complications were expected. Patient had a reactionary bleed which was successfully controlled by the first author, using suturing haemostasis technique and the lesion was completely excised.

Conclusions

1. Community-based minor surgery is very much a cost effective service. The study presented by S. George et al (May 2008) who criticised the safety of CBMS (Community-based Minor Surgery) has been proven outdated after multiple national and local audits on CBMS (J Botting 2016).
2. The complication rate is very low, in fact much lower than in secondary care.
3. Almost negligible chances of infection.
4. More patient satisfaction and convenient for the patients. This was also demonstrated in the study by S. George (May 2008).
5. This reduces the extra burden on secondary care services in addition to saving significant funds to be spent on other important secondary care services.
6. Complete excision rate of suspected malignant skin lesions is no more than secondary care excisions. In this study, in fact, it was much lower.

Suggestions

1. Consolidate on current practice.
2. Gather yearly data within the practice and the reasons for any complications should be investigated and actions should be taken to improve the practice.
3. RCGP collects national data nation-wide on regular intervals on community-based minor surgery to analyse and publish it. All health centres delivering such services should submit their data as well to the national data base (NHS Digital, Apr 2020). This will establish national standards of the practice (Welpton Scott, 2015).

Recommendations

1. Safety and cost-effectiveness of CBMS has been clearly demonstrated by J Botting (2016) which has been proven by this audit report and the national data reports collected via NHS Digital on a regular basis. So, this practice, where possible, should be embraced by the primary healthcare systems.
2. Countries like Qatar and many other Middle East states which are establishing primary care services on NHS pattern, should consider to start developing CBMS right from the beginning. They just need to identify their family physicians with surgical qualifications and surgical background and facilitate them to deliver this service in their health centres.
3. The requirements for a family physician to be qualified to perform CBMS in UK are shown in the table below (Table 4).
4. For clinical governance purposes, the national data can be collected on NHS Digital pattern at regular intervals, i.e. yearly basis, and analysed for safety and efficacy. This is much easier in countries using a single national medical documentation system like ''Cerner'' in Qatar. The IT department can easily extract data from any health centre at any time over a recommended period of time.
5. The requirements for CBMS and the procedures which can be performed are discussed in detail in a study ''Minor Surgery at PTC level'' by Colin Tidy and Prof Cathy Jackson (April 2016).

For Doctors with Surgical Background and Qualifications, e.g. MRCS, DO-HNS, FRCS etc	To be willing and confident to perform CBMS. They can also be used to train new doctors who are willing to be trained for performance of CBMS.
For Doctors without surgical Qualifications.	1. Have attended an introductory course of at least two days' duration 2. Have gained supervised clinical experience either in primary or secondary care (at least 6 months' experience in any surgical specialty at any level). 3. Have attended a minimum of three practical sessions with approved teachers covering the necessary range of procedures and have obtained a statement of satisfactory performance after each session (DOPS, mini-CEX etc).

(**Table 4**), derived from RCGP and ''Minor Surgery at PTC level'' (Colin Tidy and Prof Cathy Jackson, 2016).

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