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Research Article

Postoperative Course Following Excision Surgery and Biopsy: A Retrospective Cohort Study in The Dermatology Outpatient Department of a Tertiary Hospital in The Philippines

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A B S T R A C T

Background: Dermatologic surgery involves the diagnosis and treatment of medically necessary and cosmetic conditions of the skin, hair, nails, veins, mucous membranes and adjacent tissues. Advancements in dermatologic surgery often include new surgical techniques, technologies and procedures designed to improve outcomes, reduce invasiveness and enhance patient satisfaction. Although dermatologic surgery procedures are generally considered safe with a less than 2% complication rate, there are still possible postoperative complications such as bleeding, abscess formation and wound dehiscence.

Objective: The objective of this study was to determine the prevalence of postoperative complications that occurred in a tertiary hospital through a chart review of previous patients who underwent excision surgery, with or without biopsy, at the Department of Dermatology in a tertiary hospital in the Philippines.

Methods: The hospital records of patients in the Department of Dermatology of a tertiary hospital in the Philippines from January 2014 to January 2024 were reviewed. The course of patients who underwent different excision procedures was used to determine the presence of postoperative complications. Risk factors present in each patient were assessed to determine if these have contributed to the development of the different postoperative complications.

Conclusion: The study confirms that dermatologic surgical procedures are generally safe and well-tolerated, aligning with previous literature. While minor complications such as erythema, wound dehiscence, infection and pain may occur, these are typically noted between the sixth and tenth postoperative days. The findings emphasize the need for vigilant monitoring, specifically in older patients and those with complex wound closures.

Keywords: Dermatologic surgery, Postoperative findings, Excision

Introduction

Dermatologic surgery is an advancing field that has been more frequently in the medical field lately due to the increasing incidence of skin malignancies and the aim to diagnose it early on[1].

In dermatologic surgery, one of the most common procedures used in everyday practice is excision. Among dermatologic surgeries, excision surgery is regarded as the bread and butter since it can be both diagnostic and therapeutic[1]. Different types of excision surgery include elliptical excision, shave excision, punch excision and excision biopsy[2]. Excision biopsy is often utilized in procedures for cutaneous neoplasms and atypical nevi[3].

In general, dermatologic surgery procedures are considered safe with a complication rate of less than 2%[4]. However, it is still important to inform patients regarding the potential complications of dermatologic surgical procedures.

According to Viddimos, Ammirati, et al, the four most frequently encountered complications would include hematoma formation, infection, wound dehiscence and necrosis[5]. Complications may be further divided into immediate postoperative complications and distant period postoperative complications. Immediate postoperative complications include infection, hematoma, dehiscence, necrosis and postoperative pain that occurred twenty-four hours after the anesthetic surgical procedure[3,6]. Postoperative complications that may occur in the distant postoperative period include the formation of milia or keratinous cysts which often occur adjacent to the suture line. Suture track marks may also occur when suture material cuts into tissue eventually leading to tension remaining in place long enough for re-epithelialization. On the other hand, scars may also occur in different forms such as hypertrophic scars or keloid scars. Hypertrophic scars are defined as thickened scars that are confined within the borders of the original defect. Keloid scars, on the other hand, are scars that have expansile development and have finger-like projections. Scars often occur in areas with higher tension such as the upper trunk, shoulders and upper arms. Other distant period postoperative complications include erythema and telangiectasia, hypopigmentation and sensory anesthesia[1].

Infections associated with dermatologic surgeries most commonly involve Staphylococcal aureus and/or Streptococcus pyogenes. In some cases, it may also be associated with etiologic agents such as Mycobacterium fortuitum and Mycobacterium chelonae[7]. Signs of infection may include the presence of erythema, discharge, pain, crepitus, cellulitis, lymphangitis and fever[1].

Bleeding can lead to several problems such as the formation of a hematoma wherein there is bleeding that occurs under a sutured wound[3]. According to a study done by Bunick and Aasi, several factors may contribute to the occurrence of bleeding complications in dermatologic surgery such as age of the patient, medications, medical comorbidities and bleeding diathesis. Dehiscence on the other hand refers to the separation of layers in the wound which may be due to hematoma, seroma, infection or necrosis. Lastly, due to blood vessels being compressed by existing tension on the wound, crush, hematoma and smoking, necrosis may occur[8].

Although postoperative complications in dermatologic surgery are infrequent, there is a lack of published local data regarding this topic. Further knowledge may help provide better service and quality care to patients.

Immediate Postoperative Complications	Distant Period Postoperative Complications
• Bleeding • Hematoma • Scarring • Dehiscence • Necrosis • Postoperative pain	• Milia • Suture track marks • Scarring • Erythema and telangiectasia • Hypopigmentation • Sensory anesthesia

Methodology (Materials and Methods)

Initially, data were gathered through a review of the record of patient' records in the dermatologic surgery section. The charts of procedures from the years January 2014 to February 2024 at the Dermatology Outpatient Department of a tertiary hospital in the Philippines were included. Dermatologic procedures included in the study were excision surgery namely shave excision, elliptical excision, punch excision and excision biopsy.

Data were collected and analyzed included the patient's age, sex, risk factors, past medical history, past surgical history, past medical history including diabetes mellitus and hypertension, family history which included familial history of diabetes mellitus, hypertension, social history including smoking, alcohol consumption, operative site, use of prophylactic antibiotics, use of postoperative antibiotics (topical and oral), number of sutures applied, removal of sutures done, type of suture and number of days the complication developed postoperatively

The evaluated postoperative course comprised the prevalence rates of immediate complications such as bleeding, infection, wound dehiscence and postoperative pain, as well as prevalence rates of distant postoperative complications, including keratinous cysts, scarring, erythema and telangiectasia, hypopigmentation and sensory anesthesia. The interventions done for the complications were also collected. Other data assessed in the study included the average number of follow-ups.

The use of antibiotics prior to the procedure and postoperatively was also be evaluated. Any other use of preoperative and posttreatment medications was also be checked **(Figure 1)**.

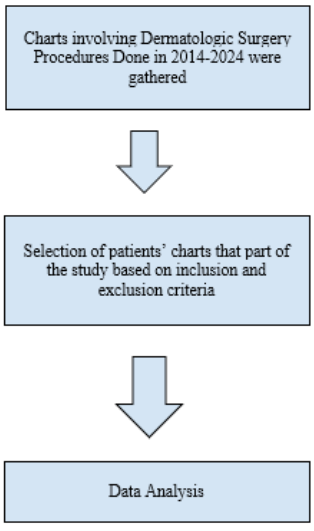

Figure 1: Conceptual Framework.

The required sample size for this study was calculated using Cochran's formula (1977), adjusted for a finite population. The following formulas was used to determine the appropriate sample size:

1. Initial sample size (for an infinite population)

2. Adjusted sample size (for a finite population)

1. Initial sample size (for an infinite population)

$$n_0 = \frac{Z^2 \cdot p\,(1-p)}{e^2}$$

2. Adjusted sample size (for a finite population)

$$n = \frac{n_0}{1 + \left(\frac{n_0 - 1}{N}\right)}$$

where:

n_0 = *initial sample size for an infinite population*
n = *adjusted sample size for a finit population*
Z = *corresponding z – score to the desired confidence level* (95%)
p = *estimated proportion of the population* (*set at* 0.5 *for maximum sample size*)
e = *margin of error* (5%)
N = *total population size*

$$n = \frac{4094 \cdot (1.96)^2 \cdot 0.5 \cdot 0.5}{(4094-1) \cdot (0.05)^2 + (1.96)^2 \cdot 0.5 \cdot 0.5}$$

$$n = \frac{4094 \cdot 3.8416 \cdot 0.25}{4093 \cdot 0.0025 + 0.9604}$$

$$n = \frac{3933.004}{10.2325 + 0.9604} = \frac{3933.004}{11.1929}$$

$$n \approx \boxed{352}$$

Study Population

The study included Filipino patients aged 18 to 75 years old who underwent dermatologic surgery procedures at the Dermatology Outpatient Department from January 2014 to February 2024. Eligible procedures included excision biopsy, shave excision, elliptical excision and punch excision.

Excluded from the study were charts of patients who underwent dermatologic surgery procedures prior to January 2014 or beyond February 2024, as well as patients younger than 18 years old or older than 75 years old. The dermatologic surgery procedures excluded were electrocautery, filler injections, chemical peels, intralesional steroid injections, Mohs surgery, laser procedures and incision biopsy. Patients with the presence of infection on the lesion prior to the excision surgery were also excluded from the study.

Statistical/ Data Analysis Plan

The data gathered in this study were encoded and analyzed using R software and Microsoft Excel subjected to the following statistical treatments:

Descriptive analysis was employed to summarize and present the demographic and clinical characteristics of the cases. Prevalence rates, representing the annual number of cases, were calculated to describe the postoperative course of patients who underwent dermatologic surgical procedures included in the study's criteria.

Chi-square Test of Independence was applied to assess the association between postoperative complications and demographic factors (e.g., age, sex) **(Table 1)**. For variables found to have a statistically significant association, Cramér's V was computed to evaluate the strength of the relationship. The following interpretation guide was be used:

Table 1: Interpretation guide.

Cramer's V	Strength of Association
0 to 0.10	Negligible
0.10 to 0.30	Weak
0.30 to 0.50	Moderate
More than 0.50	Strong

All statistical tests were performed at a 95% confidence level, with an alpha level of 0.05. Results with a p-value less than or equal to 0.05 ($p \leq 0.05$) were considered statistically significant.

Results

The general objective of this study was to determine the prevalence of postoperative complications among patients who underwent excision surgery and excision biopsy at a tertiary hospital. To achieve this, patient records from the Department of Dermatology of a tertiary hospital in the Philippines from January 2014 to January 2024, were obtained and reviewed.

Profile of respondents

Figure 2 below shows that 56% of the patients were female, indicating a slight predominance in the study population.

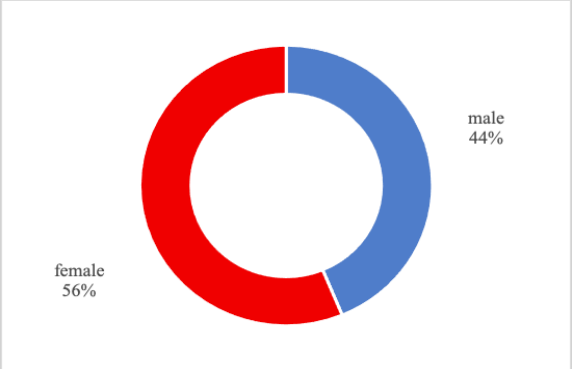

Figure 2: Proportion of patients who underwent excision (2014-2024) by sex.

Figure 3 illustrates the age distribution of the respondents where majority belonged to the middle-aged group (51-60 years old), having 79, (21.47%) patients in this category. This was followed by patients aged 31-40 years old with 76, (20.65%) respondents and patients aged 21-30 years old with 63 patients, (17.21%). The youngest patient recorded in this study was found to be 18 years old, while the oldest was 75 years old.

Overall, the age distribution is relatively balanced, with 162 (44.02%), of patients aged 40 and below and 206 (55.98%) aged above 40, suggesting a uniformly dispersed representation across age groups.

Table 2 shows that out of 2,000 excision procedure charts, 368 were included in the study. The remaining charts were excluded due to failure to meet the inclusion criteria, loss to follow-up, inability to retrieve several charts because of inconsistent hospital numbers and other documentation-related limitations. The majority of the patients underwent excision

biopsy accounting for almost 75% of the sample. This was followed by excision at 11.68% of patients and shave excision biopsy at 8.70% patients. Based on the data, less frequently performed procedures were snip excision with 4.62% cases and snip excision biopsy with only one case. In total, 5 different procedures were recorded.

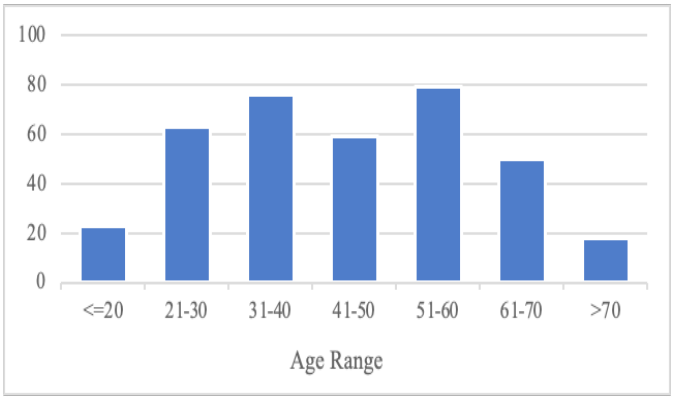

Figure 3: Distribution of patients who underwent excision (2014-2024) by age range.

Table 2: Proportion of patients who underwent procedures based on type of excision (2014-2024)

Procedure	Count	Percentage
Procedure	Frequency	Percentage
Excision Biopsy	275	74.73%
Excision	43	11.68%
Shave Excision Biopsy	32	8.70%
Snip Excision	17	4.62%
Total	368	100.00%

Table 3 shows that around 30% of the patients have a recorded family history that includes conditions such as diabetes, hypertension, cancer and asthma. In contrast, only a few patients had a past surgical history and social history at 7.34% and 4.35%, respectively. Past surgical procedures reported include cholecystectomy, cesarean section, appendectomy and cataract surgery. In addition, recorded social histories primarily involved smoking and alcohol consumption. Overall, this table highlights that a substantial proportion of patients undergoing excision surgery had relevant family histories, underscoring the importance of genetic and familial risk factors in patient profiling and perioperative assessment. In contrast, the relatively low prevalence of past surgical and social histories suggests that most patients did not have significant prior operative exposure or lifestyle-related risk factors that could confound surgical outcomes. This distribution provided important context for interpreting postoperative outcomes and potential risk stratification in the study population.

Table 3: Count and percentage of patients who underwent excision surgery (2014-2024) with past surgical history, family history or social history.

Case	Count	Percentage
With Family History	110	29.89%
With Past Surgical History	27	7.34%
With Social History	16	4.35%

Analysis

Based on figure 4 below, it can be observed that out of the 368 patients included in the study, only 15% individuals experienced postoperative complications following surgery.

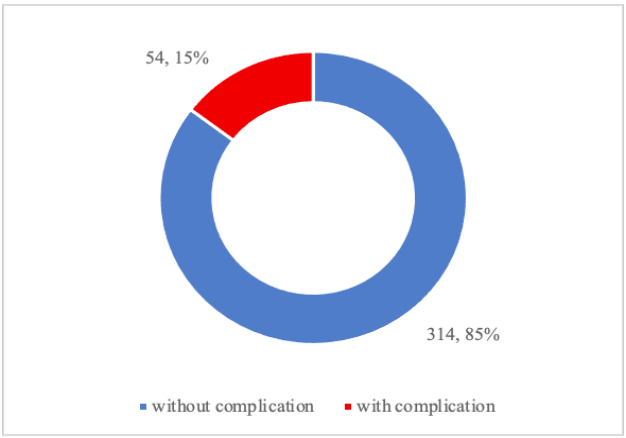

Figure 4: Proportion of patients who underwent excision with and without postoperative complications.

In Table 4, it can be observed that among the 54 patients, the most common complications recorded were erythema with 12 cases (22.22%), dehiscence with 11 cases (20.37%), infection with 9 cases (16.67%) and pain with 8 cases (14.81%). On the other hand, only a handful of cases were recorded for Bleeding (4 cases), erythema with pruritus (4 cases), pruritus (2 cases), bleeding with dehiscence (1 case), discharge (1 case), erythema with milia (1 case) and pain with bleeding and discharge (1 case).

Table 4: Proportion of patients who underwent excision (2014-2024) by complication type.

Complication	Count	Percentage
Complication	Frequency	Percentage
Erythema	12	22.22%
Dehiscence	11	20.37%
Infection	9	16.67%
Pain	8	14.81%
Bleeding	4	7.41%
Erythema + Pruritus	4	7.41%
Pruritus	2	3.70%
Bleeding and Dehiscence	1	1.85%
Discharge	1	1.85%
Erythema + Milia	1	1.85%
Total	54	100.00%

The majority of these complications (77.78%) occurred within 6 to 10 days post-operation, with an average onset of around 8 days **(Table 5)**.

Table 5: Proportion of patients by time of onset of postoperative complications.

Days Range	Patient Count
6 to 10 days	42
10 to 15 days	9
0 to 5 days	3
Total	54
Average Days	8

Based on **(Table 6)**, snip excision biopsy showed the highest complication rate at 100%; however, this figure is based on a single recorded case hence, it should be interpreted with caution. Shave excision biopsy had the second highest complication rate

with 25%, recording 8 cases out of the 32. This was followed by excision biopsy with 41 cases (14.91%) and Excision with 4 cases (9.30%). No postoperative complications were recorded for Snip Excision, on the other hand.

Table 6: Percentage of complications from excision surgeries by procedure.

Procedure	Count	Complications	Percentage
Snip Excision Biopsy	1	1	100.00%
Shave Excision Biopsy	32	8	25.00%
Excision Biopsy	275	41	14.91%
Excision	43	4	9.30%
Snip Excision	17	0	0.00%
Total	368		14.67%

Despite the differences in complication rates across different procedures, results from the Chi-square Test of Independence **(Table 7)** suggest that there is no statistically significant association between the type of procedure performed and the occurrence of postoperative complications. All p-values were above the threshold of 0.05, supporting the assumption that any differences in complication rates are due to chance rather than anything related to procedure. Further supporting this interpretation were the computed Cramér's V values for each procedure, all below 0.13, suggesting negligible to weak strength of association.

Table 7: Results of the chi-Square test of independence between type of procedure and occurrence of postoperative complications.

Procedure	p-value	Conclusion	Cramer's V	Strength of Association
Excision	0.4066	Not Significant	0.055	Negligible
Excision Biopsy	0.9603	Not Significant	0.011	Negligible
Shave Excision Biopsy	0.1426	Not Significant	0.09	Negligible
Snip Excision	0.1616	Not Significant	0.091	Negligible
Snip Excision Biopsy	0.3175	Not Significant	0.126	Negligible

*Statistically significant at 5% alpha.

Table 8 indicates that the type of suture used does not have a statistically significant relationship with the occurrence of postoperative complications at 5% level of significance. However, the association is statistically significant at the 10% level (p = 0.085), suggesting a marginal relationship that may warrant further investigation.

Table 8: Results of the chi-Square test of independence between suture related variables and occurrence of postoperative complications.

Variable	p-value	Conclusion	Cramer's V	Strength of Association
Type of Suture	0.0854	Not Significant	0.1740	Weak
Number of Sutures Applied	0.0005	Significant*	0.3420	Moderate

Statistically significant at 5% alpha

Referring to **(Table 8)**, the number of sutures applied showed a statistically significant association (α = 0.0005), with a moderate strength of association (Cramer's V = 0.3420). This finding suggests that the number of sutures may influence the likelihood of a patient developing postoperative complications. As illustrated in Figure 5, the majority of the patients who experienced postoperative complications had five or fewer sutures applied. Specifically, 38 out of the 54 recorded cases, approximately 70% of the sample, fell within this category.

As shown in **(Figures 5,6)**, vicryl (absorbable suture) was the most frequently used suture among patients who developed postoperative complications, accounting for 36 out of the 54 cases.

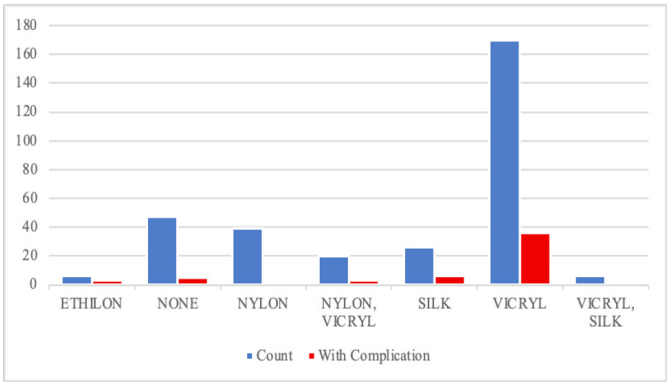

Figure 5: Comparative distribution of patients according to the suture material used.

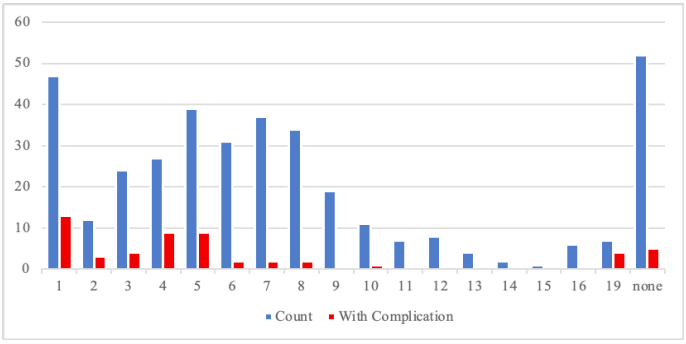

Figure 6: Distribution of patients according to the number of sutures applied.

Other patient-related variables were also analyzed to determine potential association with the occurrence of postoperative complications. These variables included age, sex, past surgical history, family history and social history. Based on Table 8, results showed that age was had a statistically significant association with postoperative complications (α = 0.0001), with a strong strength of association (Cramer's V = 0.6340). This suggests that age was a major factor influencing the likelihood of developing complications.

Past surgical history and family history were also found to have significant associations with postoperative complications, with p-values of 0.0456 and 0.0009, respectively. However, the strength of these associations was weak, as indicated by Cramér's V values of 0.1190 and 0.1820.

In contrast, no significant association was found for sex and social history with p-values well above the 0.05 threshold and negligible Cramér's V values.

These findings highlight that age is the most influential factor among those tested, while other variables such as sex and social habits appear to have minimal or no impact on complication rates in this study **(Tables 9 and 10)**.

Referring to **(Table 10)**, findings showed that there was a statistically significant relationship between age and the occurrence of postoperative complications.

Specifically, significant differences were observed in the age groups '21–30' and '51–60', both showing weak associations (Cramer's V = 0.1680, 0.1200, respectively), as shown in the same table.

Table 9: Results of the Chi-Square test of independence between other variables and occurrence of postoperative complications.

Variable	p-value	Conclusion	Cramer's V	Strength of Association
Age	0.0001	Significant*	0.6340	Strong
Sex	0.5777	Not Significant	0.0370	Negligible
Past Surgery	0.0456	Significant*	0.1190	Weak
Family History	0.0009	Significant*	0.1820	Weak
Social History	1.0000	Not Significant	0.0130	Negligible

*Statistically significant at 5% alpha.

Table 10: Results of the Chi-Square test of independence for different age groups and occurrence of postoperative complications.

Age Group	p-value	Conclusion	Cramer's V	Strength of Association
<=20	0.5944	Not Significant	0.0440	Negligible
21-30	0.0025	Significant*	0.1680	Weak
31-40	0.8124	Not Significant	0.0220	Negligible
41-50	0.9495	Not Significant	0.0140	Negligible
51-60	0.0340	Significant*	0.1200	Weak
61-70	0.6170	Not Significant	0.0370	Negligible
>70	0.0509	Not Significant	0.1200	Weak

* Statistically significant at 5% alpha

Although the age group '>70' did not reach statistical significance at the 5% level (p = 0.0509), the result was marginal and may still warrant further investigation. This was also reflected in the Cramer's V value, which indicated a weak association with the occurrence of postoperative complications (Cramer's V = 0.1200) **(Tables 11 and 12)**.

Table 11: Distribution of patients by age group.

Age Group	Patient Count	With Complication	Percentage
<=20	23	2	8.70%
21-30	63	1	1.59%
31-40	76	10	13.16%
41-50	59	8	13.56%
51-60	79	18	22.78%
61-70	50	9	18.00%
>70	18	6	33.33%

Additionally, as illustrated in Table 10, the majority of patients who experienced complications were over the age of 50, suggesting a potential trend that merits closer examination.

Table 12: Results of the Chi-Square test of independence for operative site and occurrence of postoperative complications.

Variable	p-value	Conclusion	Cramer's V	Strength of Association
Operative Site	0.2359	Not Significant	0.0890	Negligible
Extrafacial	0.7222	Not Significant	0.0260	Negligible
Facial	0.1882	Not Significant	0.0770	Negligible
Special	0.2882	Not Significant	0.0660	Negligible

* Statistically significant at 5% alpha

(Table 12) indicated that the operative site did not have a statistically significant relationship with the occurrence of postoperative complications at 5% level of significance. Furthermore, when analyzed individually by site, no statistically significant relationships were observed.

Discussion

The study evaluated the prevalence and characteristics of postoperative complications among patients who underwent excision procedures at the dermatology outpatient department of a tertiary hospital over a 10-year period. The results showed that 15% of patients developed postoperative complications, with erythema (22.22%), wound dehiscence (20.37%), infection (16.67%) and pain (14.81%) being the most frequently reported. These complications typically arose between the 6th and 10th postoperative day. Importantly, all complications were minor and manageable, with no cases of life-threatening events or hospital admissions, thereby supporting the overall safety of dermatologic surgical procedures.

These findings are consistent with existing literature which highlights the low risk associated with dermatologic surgery and emphasizes the importance of appropriate postoperative care and monitoring to achieve optimal outcomes[9]. The results align with large-scale studies and reviews, including those by O'Neill et al. and Smith et al., which have reported low overall complication rates, generally below 5%, with surgical site infections and wound dehiscence being among the most common complications[10]. The slightly higher complication rate observed in this study may be attributed to differences in follow-up protocols, case complexity or variations in documentation practices.

The analysis also revealed age as a significant factor, with a strong association with postoperative complications (p = 0.0001, Cramér's V = 0.634). This aligns with findings from Levin et al., who reported that patients aged 80 years or older had increased odds of surgical wound dehiscence (OR 1.869) and that advanced age compounded the risk when wounds were located on the distal lower extremities. Similarly, Schlager et al. noted that while age over 60 alone did not significantly increase the risk of infection, age may interact with other factors such as comorbidities to influence outcomes[1,11].

Contrary to some reports, this study found no significant association between sex and the occurrence of postoperative complications. This differs from the findings of Schlager et al., whose meta-analysis identified male gender as a risk factor for surgical site infections (SSIs)[1,11]. The discrepancy may be explained by differences in sample size, patient populations or procedural variables across studies.

Similarly, the type of surgical procedure performed in the study did not show a significant impact on complication rates. This observation aligns with the conclusions of Schwartzman and Khachemoune, who noted that the risk of SSIs is driven more by the anatomical location of the surgery and the complexity of the wound closure than by the specific type of procedure itself[1]. These findings underscore the importance of considering both the surgical site and closure technique when evaluating the risk of complications and planning postoperative care.

In addition to these observations, the documentation of bleeding-related complications in this study reflects the findings of Bunick and Aasi, who identified postoperative

bleeding as an important factor that can trigger a cascade of further complications. Their work highlighted that bleeding may lead to hematoma formation, which can in turn increase the risk of infection, wound dehiscence and tissue necrosis if not addressed promptly. They emphasized the critical role of thorough preoperative assessment particularly regarding the use of anticoagulants and antiplatelets use in reducing the risk of such complications[12]. Their recommendations for careful risk evaluation and management remain highly relevant in promoting safe surgical outcomes.

In this study, the patient charts reviewed showed that postoperative antibiotics whether topical or oral were routinely prescribed as part of standard care. This practice reflects the vital role antibiotics play in helping prevent complications following dermatologic surgical procedures. The consistent use of antibiotics demonstrates an effort to minimize the risk of surgical site infections (SSIs), which, from this study, remain to be one of the most common postoperative concerns despite the generally safe nature of these procedures. This aligns with the observations of Schwartzman and Khachemoune, who emphasized that while dermatologic surgery is associated with low overall complication rates, SSIs continue to be the most frequent complication and can significantly affect wound healing and cosmetic outcomes when they occur[1]. They also noted that the benefit of antibiotics is most evident in high-risk cases and unnecessary use should be avoided to limit antimicrobial resistance. Similarly, Strickler et al. highlighted that both topical agents and oral antibiotics aim to reduce bacterial load, support proper healing and prevent complications such as dehiscence, delayed healing or poor cosmetic results. These findings support the need to evaluate antibiotic protocols meticulously ensuring that their use is tailored to individual risk factors, specific surgical sites and surgical complexity. Further research, as also recommended by Schlager et al. and O'Neill, et al., is encouraged to determine the most effective strategies, combinations and durations of antibiotic use in dermatologic surgery, particularly for patients at increased risk due to age, comorbidities or procedural factors[13].

Limitations of the Study

The study focused on dermatologic surgery cases managed at the Department of Dermatology, Jose R. Reyes Memorial Medical Center, covering the period from January 2014 to January 2024. It specifically included procedures such as excision biopsy, elliptical excision, shave excision and punch biopsy. As this is a retrospective study, the data collected were based solely on the medical histories and physical examination findings documented by the various physicians who attended to the patients. The prevalence of postoperative complications including wound dehiscence, bleeding, scarring, infection and other related outcomes was analyzed.

Conclusion

The present study reinforces that dermatologic surgical procedures are generally associated with a favorable safety profile, corroborating the findings of current literature and prior investigations. Although postoperative complications may still occur, the most frequently observed were erythema, wound dehiscence, infection and pain. These events were predominantly minor in nature and were most documented between the sixth and tenth postoperative days. The findings highlight the importance of vigilant postoperative monitoring, particularly among older patients and those undergoing procedures at anatomically high-risk sites or involving complex wound closures. Overall, the study reinforces the existing body of evidence that dermatologic surgery is a safe and well-tolerated intervention when performed with appropriate perioperative and postoperative care.

Recommendations

Based on the findings of this study, several recommendations can be made to enhance the safety and outcomes of dermatologic surgical procedures, with particular emphasis on postoperative care and monitoring. Strengthening structured postoperative follow-up protocols, especially within the first 10 days after surgery, is crucial to ascertain early detection and timely management of complications such as erythema, wound dehiscence and infection. Clear postoperative instructions, patient education on wound care and scheduled follow-up visits should be consistently implemented to improve compliance and outcomes. Special attention should be given to older patients and those undergoing procedures in high-risk anatomical sites or requiring complex closures, as these groups were found to be more susceptible to complications. The study also suggests the judicious consideration of perioperative or postoperative antibiotic use in carefully selected high-risk cases to reduce SSIs, while remaining mindful of antimicrobial stewardship. Lastly, further research involving larger, multi-center cohorts and standardized documentation of postoperative care and outcomes is recommended to strengthen evidence-based guidelines and optimize postoperative management in dermatologic surgery. precise guidelines for postoperative care in dermatologic surgery.

Disclosure

The primary investigator did not receive any form of sponsorship or external funding for the conduct of this study. All research-related expenses, including the professional fee for the statistician, were personally shouldered by the primary investigator. Neither the primary investigator nor the co-investigators received any financial support or compensation in relation to this study.

Ethical Considerations

The research protocol was submitted to the Institutional Review Board of the tertiary hospital in the Philippines and approved prior to the initiation of the study to assure that the study commenced once allowed. In addition, since the study utilized a retrospective cohort design involving a chart review, no significant risks to the health of the patients will be occurred. All patients whose charts qualified in the study were kept confidential in accordance with Data Privacy Act, Republic Act 10173 of the Philippines. Only the postoperative course is revealed in the study. All specific personal information (name and residence), was not disclosed in the study and all charts were given individual codes to ensure this. Lastly, the study was conducted with transparency and integrity, ensuring that there was no fabrication or falsification of any gathered data occurred, regardless of the results of the study.

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