Aim: In this study, we tried to investigate some of the early markers that will eventually could predict of ARF in major thermal burns.

PATIENTS AND METHODS: This was a prospective study on 100 adult patients who suffered from deep second and third degree thermal burn with >20% of total body surface area and admitted to the burn unit at Mansoura University Hospital-Egypt between 2018 and 2020. Children, electrical burn, patient with previous renal dysfunction, and delayed burn cases had been excluded from this study. We resuscitated all patients according to Parkland’s formula to maintain a urine output of 1 ml/kg/hour. Routine investigation as arterial blood gases /12 hours, complete blood count, liver function tests, urine analysis every 5 days. Blood culture, coagulation profile, chest X-rays were done every week. Serum creatinine, blood urea nitrogen, fractional excretion of sodium, urinary malondialdehyde (MDA) and microalbuminuria, completed on days 0, 3, 7, 14, and 21. Age, sex, TBSA, and Apache II score were recorded. We categorized the patient into two groups: (Group I) as patients who developed ARF and (Group II) as patient did not develop ARF.

RESULTS: Twenty-three patients of our cohort (23%) demonstrated acute renal failure, and 8 patients underwent dialysis. Group I showed an increase in the glomerular damage marker as urinary microalbuminuria at day 0 to reach a three-fold peak on day 14 that was constant with elevated serum creatinine. Urinary malondialdehyde was also increased in Group I and reached 3-fold of their normal values on day 14. We reported this with rising microalbuminuria followed by its decrease after controlling of septicemia. Five cases (21.7%) of Group I cohort developed multisystem organ failure and subjected to low blood pressure dialysis.

Univariate and multivariate analysis showed that besides total body surface area and multisystem organ failure associated septicemia were significantly correlated with development of ARF ($P < 0.0015$, $P < 0.0023$) respectively using multiple regression analysis.

CONCLUSIONS: The incidence of early acute renal failure was 23% in our study. It was mainly related to the high total body surface area and burn depth and development of multisystem organ failure associated septicemia. Urinary Microalbuminuria and Malondialdehyde level during early renal impartment were very crucial in predicting renal affection on the glomerular and tubular level in thermal burn patients.

An Analysis of Publication Trajectory in Plastic Surgery across the Decades

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PURPOSE: Plastic surgery continues to be one of the most competitive specialties within medicine. It is well known that publication rates in the field of plastic surgery have been steadily increasing over time; however, the evolution of publication trends over successive generations of plastic surgeons has not been documented. The classic canonical publication trajectory for academicians has been well-described by a rapid increase followed by a slower decrease in productivity, leading to a plateau. This trajectory has not been investigated in plastic surgery. The purpose of the current study is multifold: (1) visualize the publication trajectory per decade for plastic surgeons certified from 1980 to 2010, (2) characterize and quantify the changes in publishing trends across decades, and (3) determine whether early career performance predicts future achievements.

METHODS: A list of plastic and reconstructive surgeons board certified between 1980 and 2010 was obtained from the American Board of Plastic Surgery. Number of publications per year was recorded for each plastic surgeon, starting with 10 years prior to board certification and ending with present day. The median cumulative publication trajectory was graphed for each decade. Kruskal-Wallis analysis was performed to determine whether there were differences in number of publications across generations at year of board certification and at career year 30. Regressions were performed to determine whether number of publications at board certification year predicted number of publications present day.

RESULTS: The publication trajectory for a surgeon from the 1980s follows the previously established canonical trajectory, represented by a rapid rise in publications followed by an eventual plateau. Each successive decade began publishing earlier than the previous. Starting in the 2000s, publication rates accelerated, especially early in one’s career. Surgeons from the 1990s and 2000s had significantly more publications by year of board certification than those from the 1980s (7 and 8 versus 5, respectively,
Surgeons from the 2010s on average achieved 8 publications by year of board certification. By year 30 of career, surgeons in the 2000s had more publications than those from both the 1980s and 1990s (49 versus 33 and 36, respectively, \( P < 0.01 \)). Regression analysis determined each additional article published by a surgeon during the early career stages predicts a 2.5- to 3.7-fold increase in cumulative publications at present day.

CONCLUSIONS: The publication trajectory for plastic surgeons from the 1980s mirrors the previously described canonical academic trajectory. It is clear that the publication arc for plastic surgeons from successive generations has greatly changed. Over the last 40 years, there has been a trend for increasing academic productivity and starting involvement in research at a much earlier stage in career, potentially due to increasing demands for matching into residency. Early career research productivity is an important predictor of future performance.

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Current Use of Free Nipple Grafting During Reduction Mammoplasty

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BACKGROUND: Nipple necrosis is a feared complication of reduction mammoplasty. Approaches to reducing this risk include various pedicles or free nipple grafting (FNG), but the current literature is limited by heterogeneity of techniques and data collection.\(^1\) While FNG may reduce the risk of necrosis, other potential adverse outcomes include impaired nipple sensation, inability to breast-feed, decreased nipple projection, and nipple-areola complex discoloration.\(^3\) Use of FNG is often based on breast measurements, such as the sternal notch-to-nipple (SN-N) distance, inframammary fold-to-nipple (IMF-N) distance, or resection weight, though consensus on indications is lacking.

To examine current practices, we surveyed American Society of Plastic Surgery members regarding use of FNG during reduction mammoplasty.

METHODS: With institutional review board approval, we surveyed American Society of Plastic Surgery members regarding experience with and indications for FNG during reduction mammoplasty.

RESULTS: Of the 212 respondents (10%), 87% performed reduction mammoplasty at least monthly, and 59% reported occurrences of nipple necrosis. The Wise pattern (77%) with superomedial (52%) or inferior (49%) pedicles was most widely employed. Determinants of FNG were IMF-N distance (50%), SN-N distance (46%), resection weight (37%), and nipple transposition distance (34%). Ptosis (13%), prior radiation, breast density, and comorbidities were cited less often. Among 78 members, indications for FNG were IMF-N distances of 15–19.9 cm (38%), 20–24.9 cm (44%), and ≥25 cm (12%) or those for SN-N distances were <30 cm (2.6%), 30–34.9 cm (19%), 35–39.9 cm (21%), and 40 cm (47%). Among 60 members resection weight parameters for FNG were 1000–1499 g (35%), 1500–1999 g (17%), and 2000 g (25%). Among the 48 relying on nipple transposition, distances were <10 cm (6.3%), 10–19.9 cm (46%), and ≥20 cm (21%).

CONCLUSIONS: In patients undergoing reduction mammoplasty, FNG may reduce the risk of nipple necrosis, but the technique is employed inconsistently in current plastic surgery practice. More systematic research is needed to define the association of specific patient features, including breast landmark dimensions, with clinical outcomes, to clarify the appropriate application of this technique.

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