

Achievements of an Academic Bariatric Surgeon in Greece during the Last Two Decades

Alexandrou A, Dimitrokallis N and Liakakos T

1st Department of Surgery, Medical School, National and Kapodistrian University of Athens, Athens, Greece

Corresponding author: Nikolaos Dimitrokallis, MD, MSc, Department of Surgery, Medical School, National and Kapodistrian University of Athens, Iras 24, 11147, Galatsi-Athens, Attiki, Greece, Tel: +306977713023; E-mail: nikolaosdimitrokallis@gmail.com

Received date: December 22, 2016; **Accepted date:** December 29, 2016; **Published date:** December 31, 2016

Copyright: © 2016 Alexandrou A, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Abstract

During the last two decades morbid obesity has risen as a global epidemic and the concurrent advent of laparoscopic and robotic surgery has led to an unparalleled booming of bariatric surgery. As a result, bariatric surgery has risen from a rather peculiar surgical subspecialty to one of the main components of the surgical training curriculum. The first generation of minimally invasive bariatric surgeons has been stepping down worldwide after all these decades of tireless and pioneering work both in the clinical and academic setting. Consecutively the pillars of bariatric surgery in Greece resigned last year. This article tries to summarize and review the work of Professor Diamantis of National and Kapodistrian University of Athens, whose efforts helped establish the modern era of bariatric surgery in Greece managing to follow the pace of progress worldwide, remaining seemingly unbound by the restrictions of this small country.

Keywords: Academic bariatric surgeon; Bariatric surgeon; Greek bariatrics

Mini Review

During the last 25 years we have witnessed various major developments in the field of general surgery, but undoubtedly one of the most remarkable changes has been the advent of laparoscopic surgery. This breakthrough in our surgical technique has led to various concomitant changes such as the exponential increase of modern technological applications in the operating rooms, the fall of a generation of traditional “maximally invasive” surgeons, the simultaneous rise of a new generation of pioneers of minimally invasive techniques, and last but not least a change in the epidemiology of surgical procedures. May be the most profound paradigm of the latter has been the booming of bariatric and metabolic surgery. With morbid obesity being a contemporary epidemic and the progressive development and consequent availability of minimally invasive effective means of treatment, it was only a matter of time for bariatric surgery to be transformed from a marginal and rather peculiar surgical subspecialty to one of the main components of the curriculum of any decent surgical training program around the world. Each year more than 400.000 such operations are being performed worldwide [1].

The early stages of the modern era of bariatric surgery were dominated by laparoscopic gastric banding in Europe. On the other side of the Atlantic the real opening ceremony of contemporary bariatric surgery was the first report of laparoscopic gastric bypass by Wittgrove et al. [2]. Gastric by-pass has been; and as it can be foreseen will remain in the near future; the mainstay of treatment for morbid obesity due to its therapeutic efficiency and minimization of surgical morbidity, and all these despite its formidable technical difficulty, especially in patients with higher Body Mass Indexes (BMIs) [3]. This having been said, laparoscopic sleeve gastrectomy seems to be the most popular operation for the treatment of morbid obesity around the world nowadays. It was almost unknown before 2003, and gradually

since then has risen to constitute more than half of the yearly workload of bariatric centers worldwide nowadays.

All these developments in the field of bariatric surgery were the result of the clinical and research efforts of the first generation of bariatric surgeons, encompassing the last two decades. In accordance with the worldwide rise of a generation of bariatric surgeons who devoted their clinical and academic efforts in the standardization of the treatment of morbid obesity, the scenery could not differ much in Greece. Three were the main academic bariatric surgeons who dominated the field of bariatric surgery in this country during the last two decades: Professor J. Melissas of the University of Heraklion Crete, Past President and Member of the Executive Board of the International Federation for the Surgery of Obesity (IFSO) [4] who has described among other, the faster emptying of the gastric sleeve and the concomitant alterations in numerous gut hormones secretion and levels as one potential mechanism of action of LSG [5,6]. In addition, Professor Melissas was the President of the 6th World Congress of IFSO and he has also been the main supporter of the establishment of Centers of Excellence for bariatric surgery having chaired the relevant committee of the IFSO for several years. Professor F. Kalfarentzos of the University of Patras on the other hand who most probably had the highest bariatric workload in Greece has been one of the major advocates of malabsorptive procedures for the treatment of morbid obesity, at least in Europe, and has reported more than 1200 such procedures [7]. Last but not least, Professor T. Diamantis of the National and Kapodistrian University of Athens (NKUOA) who might have a less shiny international curriculum but showed equivalent clinical and academic influence in the local setting.

Prof. Diamantis joined the staff of 1st Department of Surgery Medical School of National and Kapodistrian University of Athens (NKUOA) as a lecturer back in 1976 and steadily rose to become a full Professor in 2011, a position that he held till his retirement in 2015. Upon his joining 1st Department of Surgery Medical School NKUOA, it had been the most prestigious surgical department in Greece

performing a wide range of operations in the field of general and vascular surgery. However the morbid obesity department operating within it, used to be “amateurish” and primitive. A formal outpatient clinic was non-existent and it used to perform open vertical banded gastroplasties (Mason or Eckhout operations) back in the late 80s and early 90s. Prof. Diamantis picked up from that tradition by initially offering open Mason procedure for the treatment of morbid obesity and he was actually the first to perform a laparoscopic vertical banded gastroplasty in Greece in 1997. Overall he had performed more than 50 of these operations before he permanently abandoned this practice perceiving its shortcomings.

Prof. Diamantis has never been a fan of laparoscopic gastric banding (LGB) and has always found it a rather naïve conception for the treatment of such a complex problem as morbid obesity. He anticipated the problems that come along LGB and has always been reluctant in offering such a treatment having inserted only a fistful throughout his career whereas he has removed plenty of them. Following this path, he started offering conventional gastric bypass when he abandoned restrictive procedures like Mason in 1998. As one of the most prominent laparoscopic surgeons in Greece it was only a matter of short time for him before starting the efforts for laparoscopic Roux-en-Y gastric bypass (LRYGBP). Prof. Diamantis did not allow himself to become discouraged by the rather slow learning curve of such a complex laparoscopic procedure and shortly became a close follower of Michel Gagner and tried to implement his teachings in order to standardize and polish the surgical technique. There is nothing like a formal registry of bariatric operations in Greece, but most probably he was the first to perform LRYGBP in Greece in 2001. Initially he favored the circular stapler for the construction of the gastro-jejunal anastomosis, but after 2004 his technique changed and this was performed with the help of a linear stapler for the posterior wall followed by manual closure of the enterotomies (anterior wall). Until the end of his academic carrier he had performed more than 300 LRYGBPs, this being the highest number of such operations in academic teaching hospitals in this country.

It comes to no surprise that Prof. Diamantis was one of the first to advocate laparoscopic sleeve gastrectomy (LSG) for the treatment of super morbidly obese patients as the first part of a two-stage operative strategy, in Greece in 2003. Once LSG became a valid option for the definite treatment of morbid obesity he started offering this procedure as a sole therapeutic option, equivalent of LRYGBP. Blending the virtues of being a competent endoscopist and an innovative surgeon, Prof. Diamantis developed a technique for the calibration of the gastric tube of LSG with the use of the endoscope and he was one of the first to report the results of it [8]. Although favoring LRYGBP, he always allowed the patients to choose their operation after an exhaustive and comprehensible interview and briefing process. LRYGBP continued to constitute the majority of his practice only to be exceeded by LSG in 2010. Consequently, LSG has remained the most commonly performed procedure in the 1st Department of Surgery NKUOA ever since, counting more than 250 such operations as of 2015.

In November 2008, the Da Vinci robotic surgical system was installed in Laikon General Hospital where 1st Department of Surgery NKUOA operates, being the only such system in the public sector of healthcare in Greece by that time. Naturally Prof. Diamantis was the first and only academic general surgeon to routinely use it. Following an initial learning trial which constituted of laparoscopic cholecystectomies and laparoscopic funduplications (Nissen operations), he was one of the first worldwide to perform robotic

sleeve gastrectomy, and publish his initial experience with this procedure [9]. Furthermore he performed twelve robotic RYGBPs [10]. Unfortunately the logistic problems of the public health system in Greece and the relevant reimbursement issues did not allow the continuation of the robotic bariatric program, which had been a real success for only 6 months.

The academic achievements of this carrier encompassed more than 50 peer reviewed papers, dozens of international invited lectures and innumerable lectures and courses in the local surgical fora. Prof. Diamantis’ surgical prowess and academic commitment resulted in him becoming full Professor of Surgery of NKUOA as well as being appointed President of the Greek Society for Laparoendoscopic Surgery, President of the Greek Society for Bariatric and Metabolic Surgery and member of the executive committee of the South Eastern European Robotic Society. During his last term as President of the Greek Society for Bariatric and Metabolic Surgery he managed to change the constitution of the Society in order to make it more flexible and productive. He was always very highly respected, more than these achievements may show, by his peers and young laparoscopic surgeons in Greece. Renowned for his surgical expertise and proficiency as well as character integrity, he was frequently invited in courts for medico legal problems following bariatric procedures, and he was himself sued only once during his long lasting and high volume career only to be deemed ultimately innocent. Although he did not manage to become chairman of the 1st Department of Surgery of NKUOA, he endowed the bariatric division with an acting head in the face of one of the students he trained throughout all these years and ensured its thriving by achieving its total reform in accordance to the latest international standards in terms of structure and features and by attaining outcomes on par with these of high volume referral centers of prestigious health care systems [11]. Actually the Division of Bariatric Surgery of the 1st Department of Surgery of the NKUOA in Laiko Hospital, along with the currently most prominent academic bariatric division in Greece, the corresponding division of the Hippokrateion Hospital, led by Professor E. Leandros, are the sole units in NKUOA performing bariatric and metabolic surgery on a regular basis. Last but not least, having chaired the division of surgical endoscopy of the 1st Department of Surgery of the NKUOA for more than 30 years, Prof. Diamantis has trained a dozen of fellow surgeons who continue the tradition of surgeons performing upper and lower gastrointestinal tract endoscopy for their patients.

Prof. Diamantis retired from the NKUOA in August 2015 and he currently continues his practice in the private sector. Furthermore Prof. Kalfarentzos retired during the same year, whereas Prof. Melissas quit his job in the public healthcare system and works in the private sector as well. It was a real farewell to the arms for a generation of academic bariatric surgeons in this country, may be more abrupt but quite similar with a more gradual process occurring worldwide. This first generation of contemporary bariatric surgeons achieved quite a lot. They managed to make bariatric and metabolic surgery one of the hottest subspecialties of general surgery. Dealing with the treatment of a modern epidemic they have attracted the focus of patients, health systems and industry worldwide. Furthermore they evolved and polished surgical techniques thus reducing peri-operative morbidity and mortality from almost forbidding to negligible [1], whilst they expanded the armamentarium of any given bariatric surgeon from only one or two peculiar operations to a wide spectrum of well-defined and standardized procedures. It befalls upon the next bariatric generation to continue the work of these pioneers. The new arising challenges are more diverse. The wise implementation of an enormous

expansion of new technologies, not always for the undoubtable interest of our patients, is the first priority. Morbid obesity surgeons have to work alongside physicians and basic science scientists to explore the complex morbid obesity pathways, define which patients need medical help the most and which particular treatment modality may be more suitable to any given patient. Treatment of metabolic disorders like diabetes mellitus seems to be our new field of fame. Reoperations for complications or failure of the initial treatment may soon become the most frequent problem we have to deal with, and of course the development of new, less invasive and more effective techniques will always be our target. Last but not least we need to inspire a new generation of bariatric surgeons to devote themselves in a rapidly expanding field of surgery which sometimes brings science in direct contact with market. As a result, the strict application of medical ethics becomes imperative. In this process, praising our teachers is like rephrasing Isaac Newton when he declared that “we see further by standing on the shoulders of giants”.

Acknowledgements

The authors have nothing to disclose apart from their gratitude to their teacher.

References

1. Angrisani L, Santonicola A, Iovino P, Formisano G, Buchwald H, et al. (2015) Bariatric Surgery Worldwide 2013. *Obes Surgery* 25: 1822-1832.
2. Wittgrove AC, Clark GW, Tremblay LJ (1994) Laparoscopic gastric bypass, Roux-en-Y: preliminary report of five cases. *Obes Surg* 4: 353-357.
3. Celio AC, Wu Q, Kasten KR, Manwaring ML, Pories WJ, et al. (2016) Comparative effectiveness of Roux-en-Y gastric bypass and sleeve gastrectomy in super obese patients. *Surg Endosc*.
4. Melissas J (2008) IFSO guidelines for safety, quality, and excellence in bariatric surgery. *Obes Surg* 18: 497-500.
5. Melissas J, Leventi A, Klinaki L, Perisinakis K, Koukouraki S, et al. (2013) Alterations of global gastrointestinal motility after sleeve gastrectomy: a prospective study. *Ann Surg* 258: 976-982.
6. Dimitriadis E, Daskalakis M, Kampa M, Peppe A, Papadakis JA, et al. (2013) Alterations in gut hormones after laparoscopic sleeve gastrectomy: a prospective clinical and laboratory investigational study. *Ann Surg* 257: 647-654.
7. Skroubis G, Karamanakos S, Sakellariopoulos G, Panagopoulos K, Kalfarentzos F (2011) Comparison of early and late complications after various bariatric procedures: incidence and treatment during 15 years at a single institution. *World J Surg* 35: 93-101.
8. Diamantis T, Alexandrou A, Pikoulis E, Diamantis D, Griniatsos J, et al. (2010) Laparoscopic sleeve gastrectomy for morbid obesity with intra-operative endoscopic guidance. Immediate peri-operative and 1-year results after 25 patients. *Obes Surg* 20: 1164-1167.
9. Diamantis T, Alexandrou A, Nikiteas N, Giannopoulos A, Papalambros E (2011) Initial experience with robotic sleeve gastrectomy for morbid obesity. *Obes Surg* 21: 1172-1179.
10. Diamantis T, Alexandrou A, Gouzis K, Alchanatis M, Giannopoulos A (2010) Early experience with totally robotic Roux-en-Y gastric bypass for morbid obesity. *J Laparoendosc Adv Surg Tech A* 20: 797-801.
11. Alexandrou A, Athanasiou A, Michalinos A, Felekouras E, Tsigris C, et al. (2015) Laparoscopic Sleeve Gastrectomy for morbid obesity: 5-year results. *Am J Surg* 209: 230-234.