

SATURDAY, 25 OCTOBER, 2008

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18:30

Best of Europe in Aesthetic Plastic Surgery

Moderator: Yann Levet

Comoderator: Miguel Chamosa

FRANCE

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Jean-François Pascal	<i>Brachioplasty</i>
Philippe Ginouves	<i>Breast augmentation: Partial sub-muscular Technique</i>
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UNITED KINGDOM

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GERMANY

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SPAIN.

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* Denotes Presenter

18:30

ADJOURN AND CLOSING REMARKS

Selected Abstracts from the “Best of Europe” Sessions of the 1st Congress of the European Association of Societies of Aesthetic Plastic Surgery (EASAPS)

Best of Europe in Aesthetic Plastic Surgery 2008 (*Editorial Coordinator: Salvador Rodríguez-Camps Devis*)

Gilbert Aiach · J. F. Pascal · C. Le Louarn · Brent Tanner · Husan Bella · Paul Gerachi · Daniel Thornton · Hans-Henning Spitalny · Hermann Heinrich · Maike Keck · Klaus Ueberreiter · Yves Bruehlmann · Serge Lê Huu · U. Rieger · J. Mesina · A. Trampuz · D. F. Kalbermatten · M. Haug · P. Witt · H. P. Frey · R. Pico · G. Pierer · N. Lüscher · Michele Zocchi · F. Saccomanno · Enrico Robotti · Miguel Chamosa · Salvador Rodríguez-Camps Devis

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1. Surgical Look: Analytical Study and Its Implications for a More Natural Nose

Gilbert Aiach (Paris)

Rhinoplasty has become increasingly popular and patients are demanding a more natural nose. Most frequently, defects observed after a rhinoplasty are an unnatural and operated look with certain often encountered features: A naso-frontal angle that has not been adequately deepened while, a dorsum that is over-reduced underlining a supra tip deformity, an over-shortening a round nasal tip with no definition and also errors in planning such as a small nose on a large face.

One can improve results and achieve a natural look by:

- An improvement and an armamentarium of techniques;
- An improvement of aesthetic and artistic sense so as to obtain an equilibrium between the subunits of the nose and a nose which fits with the other facial features;
- And also by a careful analysis of defects and of the patients presenting complaint.

2. Brachioplasty

J.F Pascal (Lyon) and CL. Le Louarn (Paris)

The brachioplasty is disfavored by surgeons because the axillary technique produces inadequate results and the brachial technique gives excessive scarring.

We propose improvements in the brachial technique which is the only really effective option.

The innovative points are:

- The separation between the resection of the fat excess and the skin excess.
- The absence of undermining and the preservation of the anatomy (lymphatic trunks, vessels and nerves).
- The tension of closure is reduced.
- The better location of the scar line.

The main goals are both to eliminate complications such as lymphoedema and whole arm oedema and to improve the quality of the scar.

3. An Elasticated Suture for Suspension Facelifts

Brent Tanner (United Kingdom)

A review of 274 MACS facelifts from 2002 to October 2006 shows 11% re-operation rate because of ‘recurrences’ around the neck. The Nordstrom suture is an elasticated stitch primarily used for drawing together large wounds [1].

Twenty patients underwent MACS facelifts using the elasticated sutures and these results have been followed for

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six months. There has been no clinical difference between the non-elastic and elastic sutures but the follow-up is very short.

Complications and techniques of the elasticated suture are discussed.

Reference

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4. Identification of Susceptibility Genes in Keloid Scarring

Husan Bella (United Kingdom)

Introduction: Are your genes responsible for scarring? Keloid disease is a severe form of human skin scarring causing significant aesthetic, physical and psychosocial problems and posing major clinical challenges. To date the exact cause of this disabling condition remains unknown. However we know that these abnormal scars tend to run in families suggesting a strong genetic predisposition. We now have the technical ability to search for the potential causative gene/s by analysing the entire human genome. The aim of this study is to firstly explain how this disease comes about, to identify those individuals at risk and finally to offer at risk or affected individuals with novel gene therapies.

Background to Investigation/Course of Study: Keloids are benign dermal collagenous lesions that arise in the dermis during a prolonged wound healing process in individuals with a genetic predisposition.¹ Keloid disease (KD) causes hugely disfiguring and symptomatic lesions in affected individuals with little hope of successful treatment as it is highly recurrent. The sufferers of KD face serious aesthetic, physical, psychological and social consequences that may culminate in substantial emotional and financial costs.² Keloids are thought to occur only in humans. Although the rate of occurrence of KD is reported to be higher in the Black population it affects all races and managing the resulting disfigurement is a frustrating challenge.

The increased familial clustering in KD, its increased prevalence in certain races and in identical twins suggests a strong genetic predisposition to keloid formation. Understanding the genetic basis of KD may provide future prognostic and diagnostic advice to patients and help to develop novel therapeutic regimes for treatment of skin fibrosis.

As KD occurs commonly in people of African ancestry and has a strong familial component, it is anticipated that genetic risk factors will significantly increase risk of disease. However, the mode of inheritance for KD is not clear and can be assumed to be a complex genetic trait. Allele

sharing in affected relative pairs is a well-established method of detecting susceptibility loci. Evidence of linkage at genome wide significance has been detected for the common complex trait, bipolar disorder, in a small sample of 25 pedigrees using 10 K Affymetrix array technology³ suggesting that even with a small sample size there is sufficient power to identify promising regions of the genome. DNA from twenty-five informative families controls will be recruited as part of this study. Power calculations for the association study were performed using Quanto.⁴ The above sample size has >80% to detect a genetic relative risk 1.3 for a dominant or additive mode of inheritance for a minor allele frequency of >30% at a 5% significance level.

Aims of Study: In this study we have hypothesized that the development of Keloid disease (KD) is associated with susceptibility genes. The objectives of this project are:

1. To conduct a genome wide search for areas of linkage with KD susceptibility.
2. To test a series of candidate genes for linkage with KD.
3. To fine map areas of confirmed KD linkage.

End Point Objectives: *Short term.* We hope to develop:

1. The ability to identify individuals at risk of pathological keloid scarring pre-operatively with a blood test on the basis of the presence/absence of candidate susceptibility gene polymorphisms. *Long term*
2. The ability to offer prophylactic therapy to those identified to be at risk of forming keloid scars.
3. The ability to develop effective treatment based on exact pathogenesis of disease in order to treat patients with existing keloid scars.

Plan of Investigation: *Sample management and DNA extraction.* A clinical database of multicase families has been established by Professor Yagi (Department of Surgery, Khartoum University, Sudan). Affected status on all family members will be recorded by physical examination and validated questionnaire, additional data on disease severity, environmental exposures and age at onset will be collected. Blood samples for genetic analysis will be collected from affected and unaffected family members. Blood samples will be transported to the Centre for Genomic Medical Research in Manchester (CIGMR) and logged onto a Laboratory Information Management system where all samples are bar-coded and tracked through to DNA extraction and measurement. Some DNA samples may be collected remotely through the use of buccal swabs for family members, this is possible as only 500 ng of DNA is required for whole genome analysis.

Linkage analysis: High density (10 K) Single nucleotide polymorphism (SNP) genotyping using microarray technology will be performed as this offers several advantages

over traditional 10 cM microsatellite genotyping. Due to the technology genotyping being fully automated, therefore this can be completed in 6–12 weeks. Briefly, 500 ng of DNA is digested with restriction enzymes and ends ligated to product sizes of 400–800 bp. These are then amplified using generic primers and hybridized to arrays or sequence representing 10000 SNPs at pre-determined locations on the genome. The higher information content offered by high density SNPs also allows maximum information about inheritance to be gained from genotyped pedigrees. SNP array technology provides greater sample flexibility as one sample is genotyped simultaneously for all SNPs. Minimum of 2 affected member families will be genotyped until suggestive evidence of linkage is achieved in at least one genomic region.

Statistical analysis: Non-parametric linkage analysis will be performed using maximum likelihood methods to assess identity by descent allele sharing across affected family members. Potential genotyping errors will be screened out using Mendel inheritance checks and the error detection algorithms implemented in Merlin. Regions of the genome showing suggestive evidence of linkage (LOD 2.2 $p = 0.0007$) will be followed up with fine mapping and candidate gene analysis.

Possible Beneficial Outcome of Project

We hope to develop:

1. The ability to identify individuals at risk of pathological keloid scarring pre-operatively with a blood test on the basis of the presence/absence of candidate susceptibility gene polymorphisms.
2. The ability to offer prophylactic therapy to those identified to be at risk of forming keloid scars.
3. The ability to develop effective treatment based on exact pathogenesis of disease in order to treat patients with existing keloid scars.

Funding: This collaborative study between Manchester University and Khartoum University is funded by the Healing Foundation at the Royal College of Surgeons of England.

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5. Lengthening the Short Nose: Preliminary Report on Expansion of the Nasal Tip

Paul Gerachi (United Kingdom)

Surgical lengthening of the nose poses one of the major challenges in rhinoplasty. Whether the etiology is congenital insufficiency (e.g., Binders, midline clefts), iatrogenic or post-traumatic short noses, the problem remains recruiting enough skin envelope to resurface the newly lengthened nasal framework. Frequently a compromise is reached whereby a combination of septal extension grafts and stacked tip grafts are used together with wide undermining of nasal soft tissues, to achieve a modest increase in nasal length. In most cases, closure of the columellar incision is under tension, which distorts the tip by rotating the infratip lobule cephalad and undermines the result. The study reports the preliminary results of expanding the soft tissue envelope of the nasal tip with an osmotic tissue expander prior to nasal lengthening. In all cases, the aesthetic outcome of nasal lengthening was judged to be far superior to what might be achieved using conventional techniques. Results clearly demonstrate the benefit of accurately positioning the infratip lobule with a tension-free skin closure.

6. Autologous Augmentation Mastopexy Post-Bariatric Surgery: Waste Not, Want Not!

Daniel Thornton

Introduction: The escalating trend in obesity is having major impacts on health and the economy. As a result of NHS policies to reduce obesity, the numbers of patients undergoing bariatric surgery is increasing rapidly with the majority of patients losing 50–70% of their excess weight. In addition to the systemic benefits to their general health, such dramatic weight loss leads to marked changes in their body habitus with many patients seeking further ‘aesthetic’ surgery to improve their appearance.

We present our technique of autologous augmentation mastopexy to address the problems of both skin excess and insufficient breast volume.

Method of technique: Our chosen method for mastopexy uses the Wise-pattern skin excision. Augmentation of the breast deficient in volume is provided by a pedicled

subcutaneous lateral thoracic perforator-based flap raised via a continuation of the infero-lateral incision superiorly, often in continuity with a simultaneous brachioplasty incision.

Results: We present the results of our series comparing pre- and post-operative appearances.

Conclusions: Autologous augmentation mastopexy provides a robust augmentation giving more natural ptotic breasts whilst avoiding the cost and potential complications of implant augmentation. The increased lateral flank scarring is well-tolerated by these patients with the additional benefit of reducing flank fullness.

7. Measurement of Free Radicals and Anti-Oxidative Status Before, During, and After Aesthetic Surgical Procedures

Hans-Henning Spitalny (Germany) and
Hermann Heinrich (Germany)

Every surgical procedure causes a psychological and metabolic stress situation.

Protection against radicals is essential for the organism. A surplus of reactive oxygen species compared with the possible detoxification capacity causes oxidative stress.

Oxidative stress is caused, for example, by:

- Decreased activity of obligatory defence mechanism
- Environment toxicity
- Changed eating habits
- Tobacco and drug abuse
- Psychological/physical pressure
- Special operative procedures

The goal of the study was to find out if aesthetic operations cause oxidative stress situations by an excessive amount of free radicals and, if so, how can we protect the body by substitution of antioxidants.

To answer this question we performed a non-invasive analysis patented by Labo Tech on 100 physically healthy patients that came for cosmetic surgery, before, during and after operation. The age ranged from 16 years to 85 years and the duration of the operations ranged from 1 to 9 hours.

The results of analysis were based on autofluorescence: Substances able to fluoresce are excited by an UV impulse in the chosen area (between thumb and forefinger).

Emitted fluorescence is then analyzed by computer and the pattern of distribution gives information about the state of health at any time.

Parallel to this analysis we performed simultaneously invasive blood analysis to confirm the non-invasive results.

8. The Influence of Different Local Anaesthetics on the Viability of Preadipocytes

Maike Keck (Germany) and Klaus Ueberreiter
(Germany)

Background: Autogenous fat transfer with lipoinjection for soft-tissue augmentation is a commonly used technique in plastic surgery. The efficiency of this technique has often been discussed and authors still describe very different results after autologous fat transplantation. The purpose of our investigations was to evaluate the effect of the various local anaesthetics, used in the region of harvesting, on the viability of preadipocytes.

Methods and materials: Preadipocytes were isolated from human subcutaneous adipose tissue samples and cultured in FCS-Medium. After 5 days the cell cultures were incubated with Lidocain, Prilocain, Articain+ Noradrenalin, Ropivacain or our standardized tumescent solution for 30 minutes. NaCl-solution (0, 9%) served as a control. Vitality was measured with Trypan blue and FACS-Analysis.

Results: There are significant differences in the viability of the preadipocytes after incubation with the different substances. Vitality ranges from >90% to less than 20%.

Conclusion: For the first time the influence of local anaesthesia on the viability of preadipocytes has been investigated. The significant differences between the substances could explain the varying results in autologous fat transplantation. Our results should help by choosing the right local anaesthesia for infiltrating the donor site.

9. Position of the Eyebrow After Blepharoplasty: An Interesting Observation

Yves Bruehlmann (Switzerland)

Few articles were written about the variation of the position of the eyebrow after blepharoplasty. Some authors showed that blepharoplasty has no effect on the eyebrow's position. On the other hand it is often stated that blepharoplasty impairs the position of the eyebrow causing a ptosis after the operation due to the excised skin of the upper lid pulling down the eyebrow. This is not an appropriate explanation. Taking skin away of the upper lid has often an influence in the eyebrow position because the patient, after the operation, doesn't have to actively elevate the eyebrow with the frontalis muscle to correct the excess of skin. Therefore the eyebrow will return to a normal younger position. This fact has a positive effect on the hyperactivity of the frontalis muscle and you will often see after upper lid blepharoplasty an amelioration of the horizontal wrinkles of the forehead without use of Botox. This finding has not

been published before. Blepharoplasty has often a “botox-like” effect on the forehead with long lasting improvement.

10. Improvement of Buttocks’ Shape After Bodylift

Serge Lê Huu (Switzerland)

The improvement of body contour deformities after massive weight loss is a difficult challenge for plastic surgeons. The efficiency of bariatric surgery has improved and we are seeing more patients presenting after massive weight loss. These patients have an ungraceful body contour with skin excess in the middle third of the silhouette. We used to treat these patients with an abdominoplasty and a medial thigh lift, but improvement wasn’t satisfactory. The technique of the remodeling bodylift with high lateral tension developed by Dr. J.F. Pascal and Dr. C. LeLouarn allowed us to improve our results. From April 2006 to March 2008, 9 patients (8 females and 1 male), from 27 to 50 years of age, with massive weight loss (average 31 kg) were treated with the bodylift. Mean surgical time was 6 hours and hospitalization length 5 days. No major postoperative complication occurred. The cutaneous tension of the buttocks after lumbar dermolipectomy caused a flattening of the buttocks. The buttocks’ shape can be corrected by using a local flap to restore the volume loss.

11. Prospective Investigation of Explanted Breast Implants: Can Sonication Detect Subclinical Infection?

U. Rieger (Switzerland), J. Mesina (Switzerland), A. Trampuz (Switzerland), D.F. Kalbermatten (Switzerland), M. Haug (Switzerland), P. Witt (Switzerland), H.P. Frey (Switzerland), R. Pico (Switzerland), G. Pierer (Switzerland), N. Lüscher (Switzerland)

Introduction: Capsular fibrosis is a severe complication after breast implantation and remains of uncertain etiology. Microbial colonization of the prosthesis has been hypothesized as one of possible reasons for low-grade infection and subsequent capsular fibrosis. Until recently, no reliable method for detection of adherent bacteria growing in biofilms existed. Conventional cultures are false-negative in up to 30%. Sonication of removed implant has been shown by our group to improve the diagnosis of prosthetic joint infection by detachment of biofilms from the implant surface. We hypothesize that sonication can also improve the detection of microbial colonization in breast implants.

Patients and methods: In this multicenter study, explanted breast implants of patients after aesthetic and reconstructive implantation from February 2006 through December 2007 were prospectively analyzed. Implants were sonicated in Ringer solution at 40 kHz for 5 min and the resulting sonication fluid was cultured, followed by identification and enumeration of microorganisms. Patient demographics, underlying conditions, degree of capsular fibrosis according to Baker and implant characteristics were recorded.

Results: 111 breast implants from 78 patients were included. The mean age was 51 years; 99% were females (1 gender adaption in genetically male subject). 65 implants (59%) were used for breast reconstruction, 46 (41%) for aesthetic procedure. The mean implant indwelling time was 9.3 years (range, 1 month–32 years). At the time of explantation the capsular fibrosis was present in 34 (grade I), 12 (grade II), 21 (grade III) and 39 implants (grade IV). Most implants contained silicone gel (61%) with a mean volume 260 ml (range, 110–750 ml). Surface structure was textured in 60%, smooth in 32% and polyurethane in 8% of implants. 59 implants were placed (partially) submuscular and 31 subglandular. The main reasons for explantation were capsular fibrosis grade III/IV ($n = 49$), cosmetic reason ($n = 14$), clinical manifest infection ($n = 7$) and implant rupture ($n = 6$). Microorganisms were detected by sonication in 55 implants (49%), 29 implants among them grew significant number of microorganisms (>100 colonies/ml sonication fluid). Coagulase-negative staphylococci ($n = 25$), *Propionibacterium acnes* ($n = 19$), *Candida albicans* ($n = 4$) and *Bacillus* spp. ($n = 3$) were most commonly isolated.

Conclusion: By sonication, 49% of explanted breast implants were colonized with microorganisms, predominantly belonging to normal skin flora. Sonication may replace conventional microbiological methods for detection of infection. In addition, sonication allows study of the role of low-grade infection in the pathogenesis of capsular fibrosis.

12. New Perspectives in Plastic Surgery: Adipose Stem Cells

Michele Zocchi (Italy)

The techniques of additive mast augmentation which have been described over the years, require the use of artificial materials (silicon) which are often badly tolerated by the body and have access paths which could leave visible, unaesthetic, residual scars.

Furthermore, there are universally known controversies on the use of pre-filled gel breast implants, which at the beginning of the 1990s caused the suspension of the use of such products, which lasted for some years.

For almost a century in fact the autologous adipose tissue has been used safely and with success in many other surgical techniques for the correction of volumetric defects of soft tissues.

Its natural, soft consistency, the absence of rejection and the versatility of use in many surgical techniques have always made autologous adipose tissue an ideal filler tissue.

All of these evaluations have allowed Prof. Zocchi to put in place a new methodology, importantly taking into consideration the most modern interpretations of breast functional anatomy and of lipostructuring and lipotransplant methodologies.

Such methodology (L.S.B.) “Breast Bi-compartmental Lipostructuring” is based on the way adipose tissue is harvested, with minimum manipulation by a so-called bi-compartmental technique of re-implantation, that is to say, exclusively in the pre-facial retro-glandular position, and in the under skin area and mainly at the upper pole breast level, so avoiding the insertion of adipose tissue into the glandular structure context. From 1998 to present day over 150 patients have benefited from this methodology. The quantity of adipose tissue re-implanted varies from 160 cc. to 600 cc. per breast.

Complications encountered have been minimal and transitory (two cases of pseudo cysts which regressed spontaneously and a case of micro calcification at the upper pole level) but above all, thanks to the evolution of the way it is harvested and its re-insertion, it has been possible to increase the percentage of transferred adipose tissue and survival.

Such operations must always be preceded and followed by a mammography and/or ecography, which allows the safe evaluation of the evolution of transplanted tissue.

When carried out in the described method, it can constitute the most reliable therapeutic alternative to those cases where augmentation with prosthesis can prove either unsuitable or unacceptable.

This new technology has already been presented and it has been the subject of a two hour Monothematic Course at the National Congress of the Italian Society of Reconstructive and Aesthetic Plastic surgery, held in Genoa in October 2005.

13. Medial Thigh Dermolipectomy: Technique Standardization

F. Saccomanno (Italy)

The author presents a personal standardization of the medial thigh dermolipectomy, indicated for the correction of slight to marked skin flaccidity and for the treatment of

the obesity of the lower extremities and can be combined with liposuction. This procedure minimizes the risk of complications such as flattening of the inguino-cruro-gluteal (ICG) sulcus, tension of the labia majora, distorsion of the buttocks, size/shape differences between thighs and reduces the incidence and severity of scar migration.

Technical strategy is based upon four phases: *planning* (a standard marking and patient positioning); *dermolipectomy* (1st step -lifting: only ICG-incision that can be completed with a 2nd step -circumferential tightening/reduction - T-incision: ICG and vertical); *dermal-periosteal flap fixation* and *post-operative care*.

It was used in 63 patients over the last 14 years; almost all patients underwent follow-up evaluations at 1-3-6-12- months post-op. Scar migration stayed within acceptable limits. There were 4 cases of wound dehiscence at the T-scar level, with no further consequences and 2 cases of persistent lymphedema (in 1 case the procedure was combined with saphenectomy). In cases of marked flaccidity and/or obesity, flap orientation and calculation of skin excess is not easy, in order that scars will result in symmetrical position. This technique offers well-defined and reproducible parameters, facilitates the calculation of tissue to be resected, the symmetrical positioning of the scars and reduces the possibility of complications.

14. Achieving Stable Tip Projection by Septal Extension Graft and Variations

Enrico Robotti (Italy)

In open rhinoplasty, a hypoprojecting tip is usually addressed by the sequential use of a floating columellar strut, interdomal and transdomal sutures, and the final addition of onlay umbrella or “anatomical” grafts if needed.

A hyperprojecting tip can instead be de-projected in a well controlled, incremental, fashion by differential telescoping of the lateral and medial crura. Direct dome resection and reconstitution is a possible alternative.

In both cases, but obviously mainly for the former (hypoprojection), the degree of postoperative loss of tip projection, or even possible cephalic tip rotation, is not wholly predictable. A way to achieve a stable tip, discounting any postoperative unwanted setback, is to connect the dorsum to the tip via a septal extension graft. Such a graft is usually an extended spreader graft, and can be single or double if both spreaders are of extended length. A well shaped columellar strut will fit appropriately and then be locked by sutures onto the side of the single extended spreader or within the space between the paired extended spreaders.

We have termed such columellar strut a “hockey stick” graft (not to be confused with the hockey-stick technique in closed rhinoplasty for nasal tip deprojection and narrowing), since it resembles in looks and proportions an ice hockey stick, with the long slender shaft and its angled head or blade, usually positioned around 45° . This head or “hook” will easily fit the extended spreader graft(s), with the length of the head and its inclination with the shaft which may vary as needed so as to achieve the best fit with the extended spreader(s). A graft shaped as such can be easily obtained either from the septum or from the L-strut left after septal harvest.

Since, together with projection, tip shape is also often a issue, the hook of the “hockey stick” graft will usually provide a well formed tip complex with mildly diverging domes, at times obviating the use of inter-domal sutures and also shaping the columellar lobular angle as required.

A stable cartilaginous framework can thus be obtained, uninterrupted from dorsum to tip, with the lower laterals locked to the septum-upper laterals complex in a desired plane. Long-term maintenance of the wanted degree of tip projection and supratip break is thus achieved.

15. A New Concept: Liposuction in Vertical Direction—Biomechanisms

Miguel Chamosa (Spain)

Background: I have observed that in abdominal liposuction there are frequently horizontal depressions. I think that it is due partly, to the direction of the suction. When suction is,

perform in a transversal or horizontal direction instead of vertical to the axis of the body.

Methods: I have worked on 20 pieces in fresh of Abdominoplasty (Hypogastria), in one half horizontal liposuction was made, and on the other half vertical liposuction was performed.

A grid in the skin of each piece was drawn; The pieces were placed on an orthostatic way, simulating the action of the force of gravity in order to observe the deformities caused by one or another type of Liposuction; they were photographed in anterior and oblique views and the data were quantified by means of a program of images and statistical treatment.

Results: Studying the vertical and horizontal lines, have not shown significant differences in the deformities caused by the different types of liposuction. However, they are relevant in the study of the deformations in depth. I have found $15'61^\circ$ of deviation in horizontal liposuctions and $10'65^\circ$ of deviation in vertical liposuctions.

Conclusions: It has been observed that the horizontal Liposuction of the Abdomen generates deformations in depth clearly more marked than those that appear in vertical Liposuction. This is applicable to other lipodistrophic regions with tendency to the ptosis.