Our market has once again faced periods of turbulence. Despite this, the cosmetic and reconstruction surgery market continues to expand and the success of the Sebbin Group is now well established. For us, this will be a year of positive results that will allow us to move forward by optimising our projects both in France and internationally.

2015 has allowed us to witness the keen interest among surgeons about our Zurich Center of Excellence: our Sebbin University hosted over 50 talented practitioners. They confirmed their interest in our “live” surgical procedures during which their issues are discussed interactively with operating surgeons.

We still have many ongoing projects: our partnership between the University Hospital of Strasbourg and the Franco-Vietnamese Hospital in Hanoi, led by Professors Bruant Rodier and Martinot Duquennoy, is just one of many examples.

As you know, innovation has always been central to our activity and our stand for the 60th Congress of the SOFCPRE is once again the setting: our partner Crisalix’s 3-D glasses have been developed using amazing technology. They will allow a patient to visualize by themselves, in augmented reality, the effect of the impending surgical procedure. And as a good innovation never comes alone, you will find a preview of the new matrix of Sebbin round breast implants. With original features, these implants are central to both our scientific research and to the expectations of practitioners and their patients.

We are very excited about demonstrating them at the Sebbin stand from 19 to 21 November...

Happy reading.
Ms. Timmie Jean Lindsay was the first woman to receive an implantation of silicone breast implants in Houston, Texas in March 1962. The intervention was performed by Frank Gerow and Thomas Cronin. The operation was the subject of a presentation at the International Congress of Plastic Surgery in Washington in 1963.

Fifty years later, millions of women worldwide are carriers of breast implants. Talking points persist concerning the stability of prostheses and the possible development of periprosthetic capsulas. Since 1962, many technical changes have improved the quality of implants. Our Invited guest Nathalie Bricout, whose competence in the field of breast surgery is recognized worldwide, evokes the problem of texturing.
Invited guest of L’EXPANDER

TEXTURES: STRUCTURE AND CONCERNS

Doctor Nathalie Bricout
Plastic surgeon - Member of the National Academy of Surgery

The notion of texture is inseparable from the history of breast augmentation and the acceptance of what remains for the organism a foreign body: a breast implant.

The texture on the surface of the implant raises the question of its role in the structure of the periprosthetic membrane and, as has always been overwhelmingly the case, the fight against capsular contracture.

More recently, maintaining the correct position of the breast implant has become an area of concern, especially for so-called anatomical implants. Moreover, it would be perhaps worth investigating how to maintain over time the dome of a round implant in its original position, behind the nipple, which should remain the most projected part of a breast.

One cannot speak about texture without mentioning the history of the fight against capsular contracture, a complication that has always been the most dreaded aspect of breast augmentation.

This membrane can be thick and calcified and it is easy to understand the breast firmness, but it is also possible that it remains soft and flexible despite the effect produced; but why?

The deformation of the implant that becomes firmer and more spherical can be explained both mathematically and physically: the sphere is indeed the largest volume possible in the smallest available space; when the implant is deformed by a decrease of in the surface of periprosthetic membrane, it rounds up and becomes firm because a gel is comparable to a liquid: it is therefore incompressible when the pressure increases.

HISTORY

Important dates:
- 1962: 1st gel implant: Th. Cronin, Fr. Gerow
- 1965: 1st inflatable implant: H. Arion
- 1970: diaphragm valve: H. Jenny
- 1970: polyurethane: Ashley

The first implant that was oval shaped and pre-filled with gel, and no doubt would now be called anatomical, was designed by a resident of Thomas Cronin, Fr. Gerow, after seeing a blood bag pass by during a transfusion. It was a French surgeon, Henri Arion, who developed the first inflatable implant, filled with a solution of Dextran, then with polyvinyl pyrrolidone and then with simply physiological serum. All of these implants have an envelope made of smooth silicone elastomer. The next major invention came from Henry Jenny, who developed the diaphragm valve that bears his name, and which is found especially in Sebbin inflatable implants.

All of these implants with a particularly smooth, thin wall are filled with a more or less viscous gel. Although deemed unacceptable now, at the time the rate of retraction was of at least 40 to 50%. This highlighted the leaking of the gel, well before the innovations of current gel products (significant elimination of short chains, gel cohesion), when there was no anti-bleeding layer in the envelope.

1970 also marked a turning point in the history of textures: Ashley produced the first implant coated with polyurethane; this was an implant with 3 compartments in a droplet shape. The purpose of this cover was to prevent the implant from moving. The first results were disappointing. Was it due to the quality of the polyurethane? The polyurethane was in the form of fibers. Ashley modified this structure with great success. There was a dramatic improvement in results, 95% between Baker I and II. Although this was attributed to the polyurethane, it was most likely associated to another factor: the thickness of this foam layer, which definitely reduced the leaking of gel.
However these implants, covered with polyurethane foam and distributed by the Natural Y Company, were not without their disadvantages, and in particular included complications related to the polyurethane layer. For example, in the event of doubts about their longevity early extraction was difficult. But large companies (Dow Corning, Heyer Schulte, Mc Ghan and Surgitek) didn’t have the patent for polyurethane and therefore offered what they thought was an equivalent product.

Commercial imperatives were therefore at the origin of the current textures. At the time, these micro-textured implants may not have been as effective, but in any case they caused fewer complications...

**QUESTIONS**

The issues raised by the current textures are: what is their actual appeal? How are they obtained and how do they differ from one brand to another? What are their advantages but also what are the problems they leave unresolved, or create?

**HOW TO OBTAIN A PARTICULAR TEXTURE?**

I myself made thin sections of wall implants, placed under a microscope at low magnification and illuminated laterally to make the surface as visible as possible.

An example of a smooth wall with virtually no rough edges: it is simply an envelope dipped in several stages (the solvent is allowed to evaporate before dipping the next layer) with a protective layer interposed at a given time. The whole product is then cured in the oven (HTV silicone).

Then there are several ways to obtain these textures. Be it micro or macro-textures, the starting point is a smooth, cross-linked envelope. In relation to micro-texture, the more traditional method involves soaking a new layer, applying salt (or sugar), curing the whole product and then washing it.

A new foam layer can also be applied which gives the impression of relief, or moulds can be used that don’t have a smooth wall so the envelope can then be turned inside out. All relief obtained are very low and do not allow any tissue adherence.

For a macro-texture, the starting point is also a smooth, cross-linked envelope that has already been cured once in the oven. Currently, the most commonly used method then involves dipping the envelope to create an extra layer as above, applying salt, and then dipping the envelope once more, before curing the whole and then clipping and brushing the surface layer in order to open the cells. The envelope is then obviously rinsed. It was McGhan who developed this process and still uses it, and who was imitated by other manufacturers. In the different processes of each manufacturer, the height of the relief will vary depending in particular on the viscosity of the dipping bath and the abrasion of the outer layer. Another method includes applying a polyurethane foam; polyurethane and silicone are very different materials. This creates the problem of their close adhesion to the implant and what happens to the polyurethane, which in time will be absorbed and disappear completely from the peri-prosthetic membrane.
WHAT IS THE ADVANTAGE OF A TEXTURE?

Initially, the purpose of the Ashley polyurethane covering implant was to immobilise the implant, and the surprise came from the decline of the then very high rate of periprosthetic contractures compared to the other smooth implants.

But the quality of gels and envelopes, especially since the emergence of anti-bleeding layers, was not identical.

Although the leaking of gel can not be reduced to zero, it has considerably decreased and high levels of leaking was a source of inflammation, triggering contracture. Surgeons’ practices have also evolved. Current studies are contradictory, showing both an increased tolerance of smooth implants over textured implants, but also the opposite, which would appear to prove that the presence of texture is not essential in the fight against capsular contracture...

Ashley’s initial goal became interesting again when considering the insertion of an anatomical implant when we must try, by all possible means, to prevent the rotation of the implant.

For those with a round sub-glandular implant, it is important to ensure that it remains connected with the gland, and in particular that it keeps the same position without the breast moving in relation to the implant. Adhesion is only possible as a result of a macrotexture.

IN CONCLUSION

Manufacturing methods and texture definitions vary from one manufacturer to another; so that the user can find their way, they must be defined by standardised criteria, both by their physical characteristics (height and pore diameter) and their biological consequences: tissue adhesion by cell colonisation.

The appeal of texture is currently doubtful because of what had once been considered its strong point, which is the fight against contraction.

A texture providing effective adhesion without being aggressive is essential, at least in an anatomical implant to avoid the major risk for its type; to prevent the risk of rotation.

The first objective would be a standardised classification, in order to know what to expect from a particular texture.

New processes are currently being researched: let us hope they will be the source of adhesive implants for all cases, even for the replacement of existing capsules, while being free of particular complications.
Prenatal diagnosis of facial clefts: what are the consequences?

2.5 to 3% of new-borns suffer from a malformation. 13% of them have a facial cleft with or without a cleft palate. The defect involves a multi-disciplinary treatment involving not just the surgeon but also a dentist or oral surgeon, an orthodontist, a speech therapist and a psychologist.

It is up to the surgeon to explain to the family the techniques used and their limitations, as well as the consequences of treatment. The ultrasound used since 1980 has enabled the detection of facial clefts from 1981 onwards. Since then, the percentage of detection has gradually increased with improvements in ultrasound, but the statistics show a very variable positive rate of between 10 to 90%, especially before the 3rd trimester of pregnancy. The clefts can be detected between the 18th and 24th week. The quality of the ultrasound equipment has an impact on the accuracy of the result. Isolated secondary clefts are rarely detected using 2D ultrasound, but the 3D ultrasound rate of detection attains 80 to 90% of a post-birth concordance rate. 3D imaging is still not commonly used.

The authors believe that prenatal detection helps prepare the parents psychologically, and offers them a detailed explanation about care and necessary action, as well as any possible genetic tests (especially if there are associated malformations). On the other hand, early detection of the abnormality is a source of parental anxiety at the end of a pregnancy. If the diagnosis is uncertain, a 3D analysis will confirm and identify the cleft of the secondary palate, and its consequences for the child’s nutrition and speech.

As facial clefts can be detected before the 24th week, the date generally accepted for the viability of the fetus, some parents may be tempted to seek an abortion. The authors believe that the explanations given by the surgeon and the possibility of a meeting with families whose children have undergone an operation, often allow parents to understand how this abnormality can be very effectively corrected by surgery. In most articles about prenatal diagnosis of facial clefts, the number of requests for abortions is very low.

Bilateral amputation of both forearms is a very significant and disabling mutilation. No really satisfactory solution was available before the first successful allotransplantation of an upper limb by the team from Lyon led by Dubernard in 1998 [1]. Between 2000 and 2009, surgeons from Lyon have practiced alloplasties of both upper limbs in four men and one woman, who were victims of explosion, burns or electrocution. As highlighted in this article, the functional assessment of this operation is difficult and prone to complications. Follow-up operations were required (plastic surgery for the thumb point outwards, adjustment of tendon length, arthrodesis, and release of the intrinsic muscles). Immunosuppressant treatment was at the origin of the condition of 2 diabetic patients (one of which became permanent), a necrosis of the femoral head, a “serum illness”, herpes, etc.

The rehabilitation program started very early, 12 to 24 hours after the operation, with lymphatic drainage, joint mobilisation, and intrinsic electrostimulation. The tendons had healed at the end of 8 weeks and the bone in 3 months. Sensitive rehabilitation began from the 6th post-operative month.

The recovery of mobility was studied in detail, as was sensitivity and the progress in daily activities. The results were satisfactory but variable: 31 to 93% of normal movements were recovered within one to three years, with a force of between 4 and 28% of the norm. Protective sensitivity to hot and cold reappeared within a year.

22% of daily tasks were impossible before surgery but only 2% subsequently. The recovery of stereognosis was however considered poor, as the patient still needed to perform a visual check. Finally, the results are better if the amputation is distal, if there are no associated injuries (burns) and if the ischemic operating time is brief.


Ref. Bernardon L, Gazarian A et al. Bilateral hand transplantation. Functional benefits assessment in five patients with a mean follow-up of 7,6 years (range 4 - 13 years) J PRas, 2015: 68.
**Eponyms**

**Mondor’s disease**

Mondor’s disease is a thrombophlebitis of a superficial vein in the chest wall which often occurs quite abruptly. It is often observed following a breast operation, and sometimes also without warning. Although usually benign, it can be associated with breast cancer [1].

**Henri Mondor (1885-1962)**

Born in Auvergne, Henri Mondor was a brilliant medical student in Paris, where he became an intern in 1909, a Hospital Surgeon in 1920, and a Professor in 1938. Passionate about literature, he carried out his surgical career while writing many books, especially on Mallarmé. He was showered with honours, and after his death a large hospital in the Paris region was named after him. An excellent clinician, his book Urgent Diagnosis of the Abdomen was reprinted many times. He was doubtless the only surgeon to be member of the French Academy. However he was not a good surgeon, and it was often said that he was the best scholar among surgeons, and the best surgeon among scholars.


**Trendelenburg position**

A patient is in “Trendelenburg” when they are on a tilted plane in the supine position, so that their head is lower than their feet. This promotes better oxygenation of the brain [2].

**Friedrich Trendelenburg (1844-1924)**

Friedrich Trendelenburg was born in Berlin. He was precociously interested in medicine and at the age of 17 became an intern at Lister in Glasgow. He continued his studies in Berlin where he was a student of Von Langenbeck. He became chief surgeon at Leipzig University Hospital in 1895. Blessed with a fertile mind, he was responsible for many technical innovations. He described the pulmonary embolectomy that was first conducted successfully by his student Kirschner in 1924, during an abdominal operation. This operation was often cited but was subsequently rarely successful.


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**Prevention of haematomas after a facelift**

The most common complication of a facelift is a haematoma, caused by adhesion and skin necrosis, which affects 2 to 9% of patients. Many methods seek to mitigate this risk: treatment before and during the operation of high blood pressure, stoppage of herbal therapy, anticoagulant therapy, use of biological glue, drainage, compression bandage...

The article summarises the experience of R.J. Rohrich (who is also editor of the PRS). He recommends 5 elements to reduce the risk of haematomas: continuous monitoring of blood pressure during the operation, “super infiltration” (superwet technique), meticulous haemostasis, drainage, use of plasma rich in platelets. He believes that infiltration plays a critical role in enabling better visualisation of the operative field. To assess the effectiveness of his technique, he reviewed 1 089 records of patients who underwent operations between 1990 and 2013.

The operation was always performed under general anaesthetic. Since 1995, it has included a resection or plication of the SMAS. Since 2000, facelifts have been associated with localised injections of fat. For preoperative infiltration, he uses a 300mL saline solution containing 30mL of 0.50% lidocaine and 1.5mL of epinephrine. 80 to 120mL are injected on each side, using a self-filling syringe provided with a spinal needle, through the line of incision and until the skin swells firmly without turning white. The incision takes place 10 to 15 minutes later. After anesthetic induction, venous blood of the patient is extracted with a syringe containing 6mL of anticoagulant and centrifuged. The platelet-rich plasma is drawn into a 2nd syringe comprising a mixture of calcium chloride and thrombin. 4mL of mixture were injected on each side and in the SMAS. Out of the 1089 patients operated on (994 women and 95 men), there were only 10 haematomas, 8 of which treated in the operating theatre. This study contains some bias: the extent of dissection is not specified. This series is not compared to those relating only a limited infiltration or the use of biological glue. Some refuse all use of adrenaline due to the rebound effect. There is always some risk of a haematoma.

Bilateral upper limb amputation creates a dramatic mutilation compounded by the loss of vision (mine explosion). It makes the victim almost totally dependent on others.

The allotransplantation of both hands, a major procedure with the risk of complications and requiring immunosuppression therapy for life, has the advantage of restoring grip and sensitivity [1].

Before 1998, no real satisfactory solution had been found. Since antiquity, fixed or articulated prostheses (fig. 1) have been developed. They were reserved for the wealthy and unilateral amputations. The poorest in society could sometimes benefit from a utilitarian prosthesis consisting of a hook or spoon. Until the twentieth century, prostheses only allowed weak clamp movements between the thumb and forefinger. In the event of bilateral amputation, they were placed on the dominant member. The other was covered by a sort of sleeve and served as a counter support (fig. 2).

Since the 2nd World War prostheses have been perfected. Bio-electric prostheses use muscle contractions controlled by the patient. They allow for the opening, closing and rotation of the wrist. But they are often heavy and bulky, and do not restore sensitivity. To enable amputees to retain a sensitive grip, the German surgeon Hermann Kruckenber (1863-1935) had the idea during the First World War, to separate the two bones of the forearm and create an animated clip in the round pronator (fig. 3).

This method, although very unsightly, allowed a grip facilitated by the sensitivity of the stubs.

Ref. 1. Refer to the analysis: allotransplantation of both upper limbs.
FLASHBACK
ON THE HISTORY OF BREAST AUGMENTATION

CHAPTER I: FROM THE CORSET TO THE FLAPPER

Concealed or provocative, the chest has helped to define the feminine silhouette. From the sixteenth to the early twentieth century it was marked by the corset. At the end of the nineteenth century generous necklines were the fashion, and women who were not naturally “well-endowed” used magical creams or applied a kind of suction cup (an ancestor of the Brava bra®) to the breast.

After the 1st World War, the female silhouette changed completely. The corset was abandoned and the flapper with a masculine look, became the dominant model.

No surgical methods were offered at the time. However, the German Czerny (1842-1916) is considered to have conducted the first breast augmentation in 1895 [1] by filling a breast depression related to the removal of an adenoma, via a lipoma removed from the lumbar region.

Robert Gersuny (1844-1924), an Austrian surgeon, advocated injecting paraffin. This was widely used as a “filler” for several decades, despite causing serious complications (fistulas, maculae, necroses, embolisms).

Women’s magazines were full of advertisements touting miraculous methods that were of course ineffective.

Passot in his book “Pure Cosmetic Surgery” in 1931 [2] stated that “it is rare to have to correct the breast atrophy; no doubt this cosmetic deficiency reflects the taste of modern women.” Nevertheless some surgeons had tried to increase the size of breasts: Passot did so by introducing fatty deposits from the abdominal wall [2], while others inserted glass, celluloid or even ivory prostheses! But these operations remained an exception.

According to the Directive 93/42/EEC concerning medical devices, gluteal implants and nasal stents are medical devices of Class IIb. They are intended to be used in plastic, reconstructive and aesthetic surgery. GROUPE SEBBIN reserves the use of its devices to physicians trained in plastic, reconstructive and aesthetic surgery. Please read the instructions carefully before using these devices. Gluteal implants and nasal stents are CE marked by MDC Medical Device Certification GmbH notified body number 0483.