

# Mouret, Dubois, and Perissat: The Laparoscopic Breakthrough in Europe (1987-1988)

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## ABSTRACT

In the late 1980s, laparoscopy was essentially a gynecologist's tool. One of the French private surgeons, Phillipe Mouret of Lyon, shared his surgery practice with a gynecologist and thus had access to both laparoscopic equipment and to patients requiring laparoscopy. In March of 1987, Mouret carried out his first cholecystectomy by means of electronic laparoscopy. Although he never published anything about this experience, the news on his technique reached Francois Dubois of Paris. Although having no prior laparoscopic experience, Dubois acted immediately. He borrowed the instruments from gynecologists, performed his first animal experiments and, in April 1988, carried out the first laparoscopic cholecystectomy (LC) in Paris. Inspired by Dubois, Jacques Perissat of Bordeaux, introduced endoscopic cholecystectomy in his clinic and presented this technique at a SAGES meeting in Louisville in April 1989. Very soon, news of the French work in LC soon swept beyond the country's borders. Dubois and Perissat spoke enthusiastically about their work at the meetings and were largely responsible for establishing what is today called the French technique.

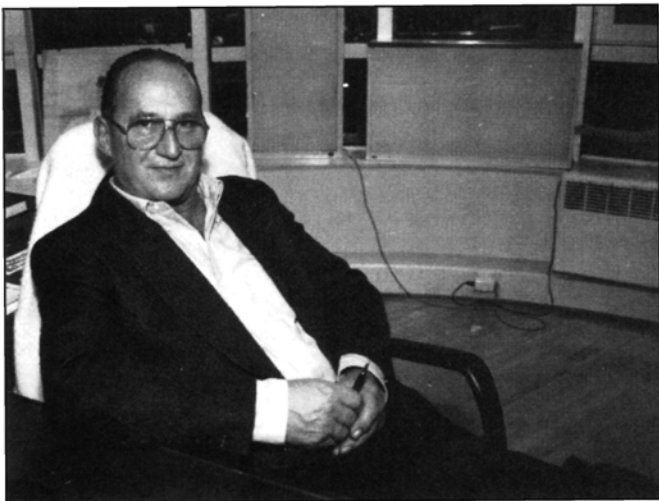
## PHILLIPE MOURET, LYON

As a general surgeon in the 1960s, Phillipe Mouret (b. 1938) rotated on a gynecology service during which he had his first contact with laparoscopy.<sup>1</sup> "At that time we used the instruments constructed by Palmer," notes Mouret. "Since then I have brought my interest in that particular endoscopic technique into surgery."<sup>2</sup> Mouret shared his surgical practice with a gynecologist and thus had access to both laparoscopic equipment and, importantly, to patients requiring laparoscopy. "I could not understand why surgeons were not using laparoscopy, but still laparotomy. The patients clearly preferred laparoscopy,"<sup>3</sup> stated Mouret in 1994. Mouret was using diagnostic laparoscopy in the 1970s, and, by the early 1980s, was able to sharpen his skills as instruments became more sophisticated. "Originally it [laparoscopy] had a strictly diagnostic purpose," remarks Mouret, "then it was used to obtain a better topographic overview before operating and finally, a small therapeutic-operative endoscope was developed, to complete endoscopic use."<sup>4</sup>

According to Mouret, in 1983, unaware of Semm's efforts, he carried out his first laparoscopic appendectomy (LA). "The first step was to expose the appendix laparoscopically and then to pull it out of the abdomen," notes Mouret. "After that, I cut it off extracorporeally."<sup>5</sup> Mouret never attempted to publish his initial work on LA.

In the late 1980s, laparoscopy was still mainly a gynecologist's tool, so the gynecologists were the first to be offered electronic laparoscopes. With his close connections to the gynecological field, Mouret was exposed to these new developments. In 1987, he began to use an electronic laparoscope. As Mouret recalls, in March 1987 he operated on a woman suffering from both a gynecological disorder and gallstones.<sup>6</sup> Pointing the laparoscope upward, he removed the gallbladder. A skilled laparoscopist, Mouret managed the technical side of the operation. "That time the technique was not fully developed," he explains. "In particular, the clips were inadequate, which led to desufflation. . ."<sup>7</sup> He excised the gallbladder extracorporeally.

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**Figure 1.** “I did not see any chance for publishing about laparoscopic cholecystectomy in a surgical journal.” Philippe Mouret in his office in Lyon (1994). Fig. 16-3 in *Highlights*.

He never published this experience. “I did not see any chance for publishing in a surgical journal,” he stated in 1994 (**Figure 1**).<sup>8</sup> He opted to present only a video tape with laparoscopic cholecystectomy at a gynecological meeting in Paris.<sup>9</sup>

## FRANCOIS DUBOIS, PARIS

Cholecystectomy by “mini-laparotomy” under local anesthesia represented a trend toward reducing the surgical incision. This technique was developed in the early 1970s and became popular in France.<sup>10</sup> The small incision and absence of drainage catheters led to a very short postoperative hospitalization; in many cases, a so-called “one-day cholecystectomy” was possible.<sup>11</sup> By the early 1990s, surgeons at the Hospital International of the University of Paris had performed more than 1,500 such operations.<sup>12</sup> One of those surgeons, Francois Dubois, advocated the “mini-cholecystectomy,” convinced it offered the best possible surgical access to gallbladder disorders. He was particularly proud of its patient-centered aspect.

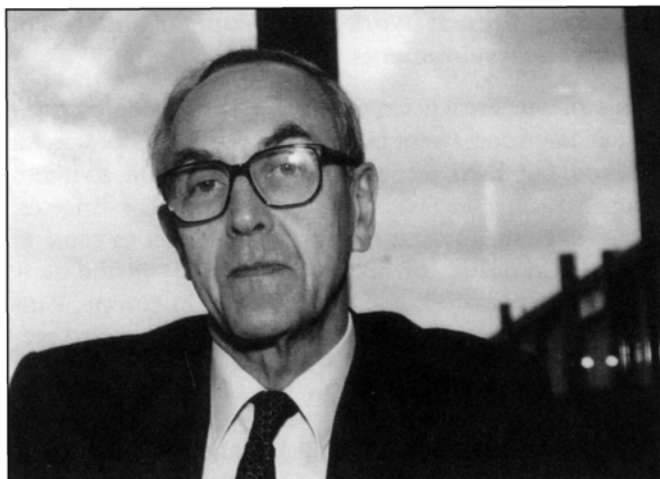
As Dubois remembers it, in the fall of 1987 he was closing an operative incision when he noticed a new nurse on the operating team.<sup>13</sup> He called her attention to “the smallest scar in the world after gallbladder removal.”<sup>14</sup> But Claire Jeauptre remained unimpressed. “There is

another way of removing the gallbladder by an even smaller opening,” she responded.<sup>15</sup> Dubois was astounded. She continued, “I mean the laparoscopic cholecystectomy.” “Removing a gallstone by means of a laparoscope is not possible,” returned Dubois. Jeauptre explained that a surgeon in Lyon named Mouret was using a laparoscope to remove gallbladders. Dubois could only repeat (a bit angrily), “Laparoscopic cholecystectomy is not possible!” But the nurse held her ground and suggested that he call Mouret, with whom she had worked before moving to Paris.<sup>16</sup>

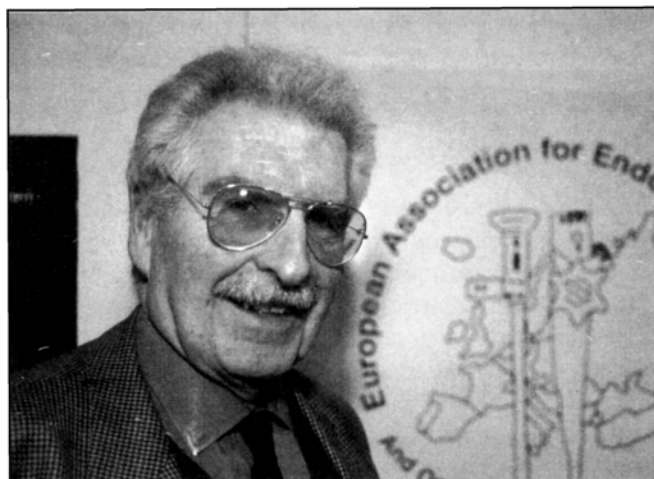
Mouret had never met Dubois before and was surprised by his call. The Paris surgeon stated he would be interested in obtaining more information about Mouret’s experiments with laparoscopic surgery. Mouret pointed out that laparoscopic removal of the gallbladder was not in the experimental, but rather in the clinical, stage. He offered to show Dubois a video tape of the technique. Since he happened to be coming to Paris for a gynecological meeting, the two surgeons agreed to meet there in a couple of weeks.<sup>17</sup>

It was December 1987<sup>18</sup> (or January 1988)<sup>19</sup> when Dubois and Mouret met in the Paris Hilton, a stone’s throw from the Eiffel Tower. Mouret recalls that Dubois said little, his attention concentrated on the video with an occasional “hm, hm” tossed in. “Dubois then said ‘thank you very much, very interesting, good bye.’ That was all,” noted Mouret seven years later.<sup>20</sup> Dubois had watched a tape of two cases. Perhaps he was reserved in his reaction that evening, but Mouret’s demonstration impressed him. The tape of a step-by-step laparoscopic cholecystectomy (LC) convinced Dubois that endoscopic removal of the gallbladder was possible.

Dubois was an open-minded surgeon. Along with his work on “mini-laparotomy” cholecystectomy, he decided to devote some of his energy to Mouret’s method. Dubois acted immediately, collecting literature on laparoscopic surgery. “I had no prior laparoscopic experience,” he recalled in 1995 (**Figure 2**). “Especially the books of Semm drew my attention.”<sup>21</sup> He borrowed laparoscopic instruments from gynecologists. Interestingly, Dubois used a monocular endoscope of 10 mm with a cold-light optic; the video camera had to be attached to the eye piece outside the patient’s body.<sup>22</sup> Dubois soon accumulated his first experiences with basic laparoscopic technique on animals and moved on to clinical tests. He describes these first cases:



**Figure 2.** “I had no prior experience with laparoscopy.” Francois Dubois of Paris (1995). Fig. 16-4 in *Highlights*.



**Figure 3.** “I thought, this fellow (Dubois) has a good idea, remove the organ laparoscopically rather than leave it after lithotripsy.” Jacques Perissat of Bordeaux (1995). Fig. 16-5 in *Highlights*.

At the very beginning I was not skilled enough to finish this procedure in the endoscopic way. The first operations I always began laparoscopically, but I finished the procedure using laparotomy. Finally it worked! My first fully laparoscopic cholecystectomy was done at the end of April 1988.<sup>23</sup>

### JACQUES PERISSAT, BORDEAUX

During this time, Jacques Perissat (b. 1933) of Bordeaux, France, was working on extracorporeal shock wave lithotripsy (ESWL) for gallbladder disease. Disappointed with ESWL results, Perissat decided to modify the method by putting a device inside the patient's body. An endoscopic tool was necessary to produce intracorporeal shock waves in the gallbladder utilizing a percutaneous approach.<sup>24</sup> Perissat came up with the idea of using laparoscopy, a technique already familiar to him. His first experience with laparoscopy dated back to 1965, when he mastered the laparoscopic technique with Palmer's instruments. Perissat did laparoscopy to look for an ectopic pregnancy or to make explorations for liver disease. “In the 1970s, ultrasonography and CT came and we forgot laparoscopy,” notes Perissat.<sup>25</sup>

### Intracorporeal Lithotripsy and Cholecystotomy

In the late 1980s, Perissat experimented with intracorporeal lithotripsy. With laparoscopic assistance and under general anesthesia, Perissat introduced an ultrasonic lithotripter through a 5 mm trocar into the gallbladder. The gallbladder was constantly irrigated, and the jacket around the laparoscope (or “cholecystoscope,” as Perissat called it) prevented leakage into the peritoneal cavity. The vibrating bar of the lithotripter was connected into a suction pump to evacuate the fragments of the destroyed stones.<sup>26</sup>

One of Dubois' lectures gave Perissat the idea of carrying out cholecystectomy in place of cholecystotomy. As Perissat remembers the event, it was in Paris, probably July 1988. He was participating in an academic meeting and heard Dubois speak on laparoscopic appendectomy (not laparoscopic cholecystectomy). “I thought, this fellow has a good idea, remove the organ laparoscopically rather than leave it after lithotripsy,” recalls Perissat (**Figure 3**).<sup>27</sup>

### Intracorporeal Lithotripsy and Cholecystectomy

In October 1988, the new procedure was introduced in the Center Hospitalier of the University of Bordeaux. After clearing the gallbladder of stones, Perissat dissect-

ed the empty gallbladder under laparoscopic vision and removed it through a lithotripsy channel. "It was a more complicated procedure," recalled Perissat in 1995, "because one had to enter the gallbladder to reveal the stones. And it lasted very long."<sup>28</sup>

Occasionally, some of the stones were so small that it was unnecessary to use lithotripsy. In such cases Perissat performed only laparoscopic cholecystectomy. In early 1989, however, he treated most gallbladder cases with a combination of intracorporeal lithotripsy and cholecystectomy.<sup>29</sup> According to Troidl, Perissat called in the spring of 1989 to invite him to Bordeaux. Perissat sketched his concept, and Troidl immediately decided to go to France. Troidl recounts his experience:

I personally do not like X-ray techniques and Jacques was performing lithotripsy under radiological vision. When I was in Bordeaux, Jacques told me about Dubois' work. Because I was so interested, Jacques called Dubois and the next day I observed LC in Paris. Even at that time, Dubois was carrying out LC in an elegant way. I liked it very much.<sup>30</sup>

With his ties to gynecologists, Mouret had given a new impulse to laparoscopic applications in surgery. His knowledge of technological developments in that field led him to introduce electronic videolaparoscopy into general surgery. Dubois, a surgeon with broad expertise in biliary surgery, was the second link in the French connection. Although he became aware of Mouret's work more or less by accident, he was quick to respond to that message. Despite his lack of experience with laparoscopy, Dubois appreciated the new technique and devoted his laboratory time to learning abdominal endoscopy. For his part, Perissat tried to solve the problem of cholelithiasis by using ESWL; he initially saw the laparoscope as a way to control the entry into the gallbladder.

Personal contact and exchange provided the catalyst to the spread of laparoscopic cholecystectomy in France. The first connection (Mouret-Dubois) was oral communication, buttressed by information recorded on video tape. The second connection (Dubois-Perissat) came about in a more traditional way — Perissat modified his work, spurred by Dubois' lecture.

### **Impact of French Work on European and North American Developments**

News of the French experience in laparoscopic cholecystectomy soon swept beyond the country's borders. It reached Cuschieri in Scotland, Katkhouda in southern France, Klaiber in Switzerland, Phillips in Los Angeles, Troidl in Germany, and others. Many surgeons came to Paris or Bordeaux (or both) to assist LC. In the early phase of the laparoscopic breakthrough in Europe, Paris and Bordeaux hosted frequent visitors. Perissat also presented his video tape at the April 1989 SAGES meeting in Louisville (April 15-17, 1989).<sup>31</sup>

Three weeks later, Dubois published the results of his 36 cases in *La Presse Medicale*.<sup>32</sup> Since that particular publication was in French, it was not accessible to many American surgeons. Dubois' second paper, "Coelioscopic Cholecystectomy," published in *Annals of Surgery*, had a wider audience.<sup>33</sup> It appeared in January 1990, three months after the American College of Surgeons meeting and two months before the Second World Congress on Surgical Endoscopy in Atlanta. Dubois and Perissat spoke enthusiastically about their work at the meetings and were largely responsible for establishing what is today called the French technique.

### **Final Remarks on "French Connection"**

Regarding the laparoscopic breakthrough in Europe, two things more must be stressed. First, it is important to note that the climate for laparoscopy had changed radically and rapidly from the time of Muehe's first reports on laparoscopic cholecystectomy. French and North American medicine in the late 1980s was ripe for the introduction of laparoscopic techniques into general surgery. Second, it is important to note that many of the early workers in Europe were not aware of the activities of the others. The French surgeons were working independently from Mühe (Böblingen, Germany), McKernan and Saye (Marietta, GA), Olsen and Reddick (Nashville, TN), Ko and Airan (Chicago, IL), and some others. For the first time, around the Second World Congress on Surgical Endoscopy in Atlanta (March 1990), most of the pioneers came into touch with each other. By that time, however, the laparoscopic "revolution" was already in full swing.<sup>34</sup>

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