

로봇수술 및 첨단수술 (베리아트릭 수술)

Robot Assisted Laparoscopic Surgery and Bariatric Surgery

638 - 13

Won Woo Kim, M.D.

Minimally Invasive Surgery Center, Seoul, Korea

E - mail : lizk@orgio.net

Abstract

Laparoscopic operations are a primary component of general surgery. Opportunities to perform laparoscopic operations currently vary widely between surgical training programs. As utilization of minimal access procedures increases in the future, doctors will more readily learn the skills necessary to safely accomplish these operations. Recently robotic surgery has been developed amazingly, and now tele - robotic, laparoscopic abdominal surgery is feasible with its initial outcomes being compatible with those obtained from traditional laparoscopic surgery. Therefore, the tele - robotic and robotic surgical systems are believed to overcome some of the limitations inherent to the traditional laparoscopic surgeries and to increase the number of surgeons who could perform complex laparoscopies in the future. Laparoscopic bariatric surgery is a well known procedure in western countries. It appears as effective as other laparoscopic operations and has been shown to provide excellent long term outcomes. Therefore I am trying to introduce bariatric surgery which is not much familiar in Asian countries.

Keywords : Robotic surgery;
Remote tele - robotic surgery;
Bariatric surgery

: ; ;
()

Robot Assisted Laparoscopic Surgery

(1~3). /
robotic surgery remote surgery()
telesurgery
(4).
가
가
가
가

1. Robotic Surgery

50%

가

(ergonomically superior), robot arm

AIDS

가

2. Remote Telerobotic Laparoscopic Surgery

Robotic Surgery

Remote Telerobotic Surgery

2D(two - dimension)

robotic system

robotic system

console

, straight laparoscopic instrument

robotic arm

가

fi-

(wrist motion)

beroptic cable

Lindbergh

가

Operation(The World's First Transatlantic Telerobotic - assisted Laparoscopic Surgery)

가 Robotic Surgery

telerobotic surgery

Telecommunication

2001 9 7

robotic instrument

Tele -

New York, Lower Manhattan

robotic Surgery

. Tele - robotic Surgery

project

Operation Lindbergh

가

. 9 7

8 30

New York Dr.

가

robot

Gagner France, Strasbourg Dr. Marescaux

console

6,222 km

Transatlantic Remote

, remote solo surgeon

Telerobotic Surgery가

laparoscopic operation

Transatlantic Telerobotic - assisted Laparoscopic

Tele - robotic Surgery fiberoptic line

pic Cholecystectomy

robotic system

telecommunication system

Computer Motion

Zeus Robotic System

. Tele - robotic Surgery

France Telecom / Equant, Telecommunication

가

Company

. laparoscopic

robot system

가

Intuitive surgery

da Vinci system(

1)

Computer motion

3D(three - dimension)

Zeus system(2)

. system

robot sys-



1. (Intuitive surgery)

tem Zeus robot system Dr. Gagner
Mount Sinai Minimally Invasive Surgery Center
(MISC)

robotic surgery robotic
system cable

가

Codec Network Package

6,222 km(3,866 miles, roundtrip

7,732 miles)

(experimental time delays) 165 msec

가 Console

robot arm

80 msec

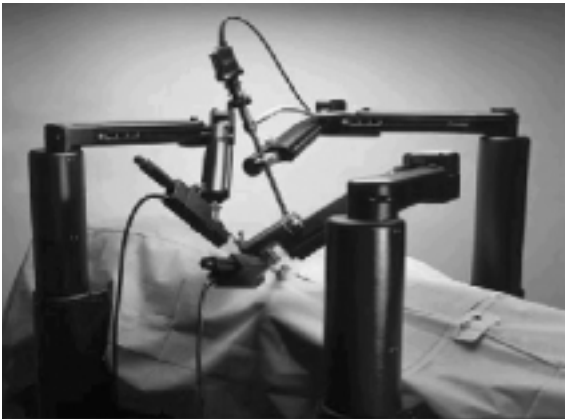
85 msec

time

delay 155 msec

6,222

km 가



2. (Computer motion)

가

time delay

가

project가

가

medical license issue

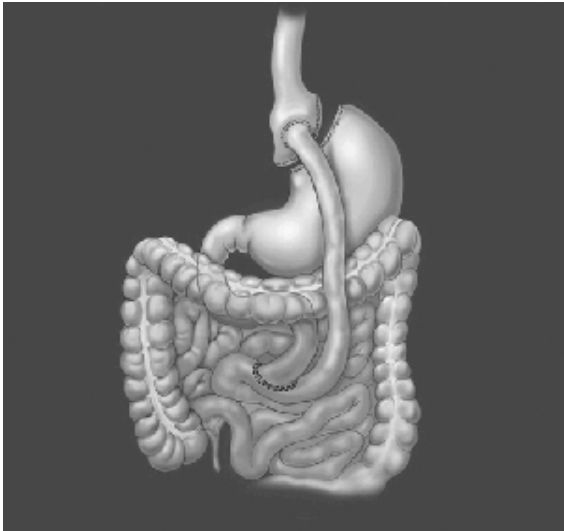
가

case

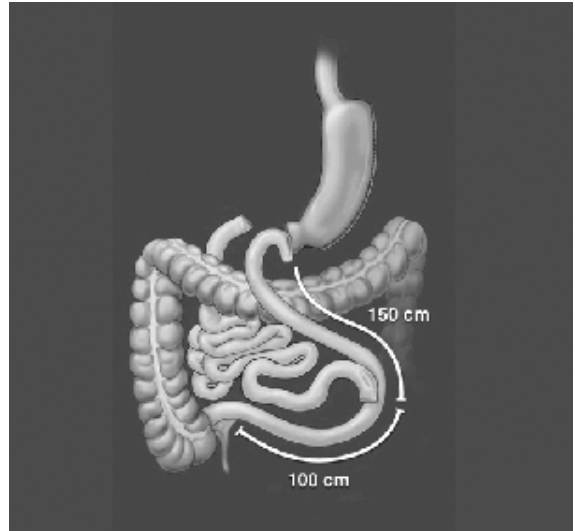
가

가

			(legality)	
	project		(ethics)	
9.11 World Trade Center		Tele - robotic Surgery		가
3. Tele - robotic Surgery		4.		
Telesurgery	1992 Satava	가	robotic surgery가	
	, 1993 Dr. Gagner			(5).
assist laparoscopic cholecystectomy가				
1997	15 feet			가
remote laparo-				
soscopic cholecystectomy가	1998	(6).		
14,000 km	transcontinental robot - assist		가	1980
laparoscopic cholecystectomy가				
1,000 ms	가		가	robotic surgery
telecommunication network	2001 7			가
	transatlantic remote			
laparoscopic cholecystectomy가	Mount Sinai Medi-			
cal School, Minimally Invasive Surgery(MISC)				
Dr. Michel Gagner				
2001 9 7	transatlantic re-			
remote laparoscopic cholecystectomy가	Dr. Gag-	1.		
ner Dr. Marescaux			(Bariatric)	
	Dr. Gagner			
transatlantic	2			(bariatric)
Sendai, Tohoku University				
transpacific telerobotic surgery		(baros)		(iatrike)
가				
	Telero - botic Surgery			
	Tele -			20
surgery	가			6
	video delay	audio quality,		
video resolution		가		2000



3. (Gastric R - en - Y Bypass with gastric pouch)



4. (Biliopancreatic diversion and duodenal switch)

2.

가

(7). 가

1~2

가 가
가 가

(Bariatric Surgery)

(8, 9).

(3, 4).

(Ghrelin)

가 가 (10).

(5).

1

50~80%

가 가

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