



# The use of Bakri balloon to reduce the anastomosis tension in hepaticojejunostomy

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## ABSTRACT

One of the factors that impair anastomosis healing in patients undergoing hepaticojejunostomy is tension of the anastomosis. There may be tension, especially in cases with a short mesojejunum. In cases where the jejunum cannot be brought higher, positioning the liver a little lower may be a solution. We placed a Bakri balloon between the liver and diaphragm to position the liver to a lower level. Here we present a successful hepaticojejunostomy case in which we placed a Bakri balloon to decrease the anastomosis tension.

**Keywords:** Bakri balloon, hepaticojejunostomy, anastomosis tension

## INTRODUCTION

Performing a hepaticojejunostomy operation has certain difficulties, especially in cases with a short mesojejunum. Although it is tried to be performed at the most proximal site as possible where the mesojejunum is longest, this mesojejunum may not be sufficient to perform a tension-free anastomosis in some patients. As it is known, the tightness of the anastomosis in hepaticojejunostomy operations increases the rate of postoperative bile leakage (1). Therefore, additional methods may be required to reduce anastomotic pressure. Placing a sterile gauze between the liver and the diaphragm during anastomosis is one of the methods that facilitates anastomosis. However, removing this sterile gauze after anastomosis has taken place will cause an increase in tension in the anastomosis. Therefore, there is a need for a tool that can be driven behind the liver and removed later, not only during the anastomosis but also after the operation, until the anastomosis heals.

## CASE REPORT

Bakri balloon is a device that can be used vaginally in uterine bleeding. This intra-uterine balloon is kept in the uterus during bleeding and acts as a tamponade to stop the bleeding (2). We also thought of placing the Bakri balloon between the liver and the diaphragm since it is large, can be easily placed during the operation and can be easily removed after the operation when desired. To reduce the tension of the anastomosis, it was inflated with 500 cc saline intraoperatively by placing it between the liver and the diaphragm in a patient with a short mesojejunum (Figure 1). In this way, the distance between the liver and the jejunum was shortened, and the anastomosis could be performed without tension. Operation was terminated by leaving the Bakri balloon in place. No complications developed during the follow-ups, and no bile leakage was observed (Figure 2). The Bakri balloon was completely emptied and withdrawn on the seventh day of the operation. The patient was discharged, and no problems were observed in the follow-ups of the patient.

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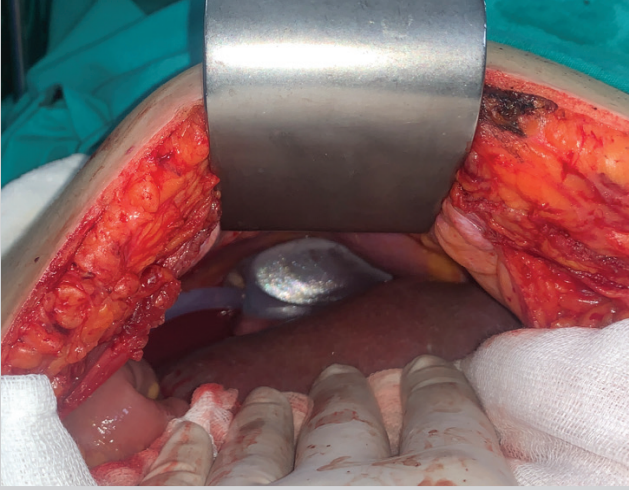
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**Figure 1.** Bakri balloon placed between the diaphragm and the liver.



**Figure 2.** Postoperative CT image showing the Bakri balloon between the diaphragm and the liver.

## DISCUSSION

We assert that this method can be used safely in anastomosis with a tension, especially in patients with a short mesojejunum.

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### CERRAHİ TEKNİK-ÖZET

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## Hepatikojejunostomi anastomoz gerginliğini azaltmak için Bakri balon kullanımı

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### ÖZET

Hepatikojejunostomi yapılacak olgularda anastomoz iyileşmesini bozan faktörlerden birisi de anastomozun gergin olmasıdır. Özellikle kısa mezojejunumu olan olgularda gerginlik olabilmektedir. Jejunumun daha yukarı getirilemediği durumlarda karaciğeri bir miktar aşağıya konumlamak bir çözüm olabilir. Karaciğeri daha aşağı bir seviyeye konumlandırmak için karaciğer ile diyafram arasına bir Bakri balonu yerleştirdik. Burada anastomoz gerginliğini azaltmak için Bakri balonu yerleştirdiğimiz başarılı bir hepatikojejunostomi olgusunu sunmaktayız.

**Anahtar Kelimeler:** Bakri balon, hepatikojejunostomi, anastomoz gerginliği

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