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Case Report

# Metabolic complete response after docetaxel, cisplatin and S-1 (DCS) therapy and sequential radiation therapy in a patient with anal squamous cell carcinoma: a case report

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ABSTRACT

Chemoradiotherapy is the standard treatment for anal squamous cell carcinoma (SCC). Recently，it has been reported that a combination therapy of taxane, platinum and fluoride pyrimidine is useful for SCC. A 58-year-old woman was admitted to our hospital with anal pain and constipation. Computed tomography (CT) scan revealed a 9×6 cm tumor, stenosis in the anal region, and swollen pelvic and inguinal lymph nodes. She underwent laparoscopic ileal stomatoplasty and biopsy. A diagnosis of SCC of anal canal was confirmed by histopathological examination. She received a combination therapy with docetaxel, cisplatin and S-1 (DCS), followed by radiation therapy (RT). After her chemoradiotherapy, no abnormal accumulation was observed on a positron emission tomography-computed tomography (PET-CT) scan, and she was diagnosed with metabolic complete response (CR). The 3-drug combination therapy of taxane, platinum, fluoride pyrimidine followed by RT as primary treatment may be effective in the treatment of anal SCC.



## Introduction

Anal squamous cell carcinoma is a relatively rare disease, representing only 1-5% of all gastrointestinal malignancies [1, 2]. There is no established treatment regimen in Japan, although chemoradiotherapy is the standard treatment in Western countries [3, 4]. Recently，it has been reported that a combination therapy of taxane, platinum and fluoride pyrimidine is effective in the treatment of squamous cell carcinoma, for example esophageal cancer [5, 6]. We report here a case of anal squamous cell carcinoma with docetaxel, cisplatin and S-1 (DCS) therapy and sequential radiation therapy (RT) as primary treatment.

## Case

A 58-year-old woman was admitted to our hospital with anal pain and constipation. She had been in her usual state of health until about 10 months before admission, when a lump in her anal region was found. 3

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months before admission, she developed progressive pain and started to bleed anally. One month before admission she saw her primary physician because she suffered from constipation and her symptoms were progressing. She was diagnosed with a tumor in the anal region and referred to our hospital for further evaluation. Her past medical history and family history was not contributory. On physical examination, her height was 166 cm, her body weight was 49 kg. Her consciousness was unimpaired, her body temperature was 36.5℃, her blood pressure was 147/61 mmHg, her pulse was 64/min and regular. There was no jaundice. Cervical and supuraclavicular lymph nodes were not palpable. Her lung examination was clear. Heart examination was unremarkable with normal S1 and S2, no murmur. Her abdomen was soft, flat and non-tender. Digital rectal examination revealed a tumor involving the entire anal canal with protruding perianal component.

Hematologic parameters were as follows: Red blood cell count was $305\times10^4$/μg, hemoglobin was 7.9 g/dl, hematocrit was 25.9%, leukocyte count was 7210 /μl, platelet count was $33x10^4$ /μl. Blood chemistry and sero logic findings were almost completely within normal limits, except for C-reactive protein (2.3mg/dl), carcinoembryonic antigen (CEA) (9.5ng/ml, normal range<5 ng/ml) and squamous cell carcinoma-related antigen (SCC) (7.1ng/ml, normal range<1.5 ng/ml). HPV genotype test on cervical cytology was negative.

Contrast computed tomography（CT）scan revealed a 9 × 6 cm tumor and stenosis in the anal region. Inguinal lymph nodes were swollen（ Fig1A-C).

Rectal or anal canal cancer was suspected, but local excision was deemed difficult. Therefore, the patient underwent laparoscopic ileal stomatoplasty. At the same time, trans-anal tumor biopsy was performed. A diagnosis of squamous cell carcinoma of anal canal was confirmed by histological examination. Chemotherapy and sequential RT was indicated because the tumor was very large and lymph nodes were swollen in the pelvis.

After 1-month post admission, she received DCS therapy (docetaxel: 60mg/m2, given on day 8, cisplatin: 60mg/m2, given on day 8, S-1: 120mg/day, given on days 1-14, every 3 weeks). During the first cycle, she developed a grade 2 diarrhea, nausea and vomiting. In response to the treatment, CEA and SCC decreased quickly. Radiotherapy was administered to the primary tumor and to pelvic and inguinal lymph nodes (36 Gy in 20 fractions and 21.6 Gy in 12 fractions), because she responded well to DCS therapy. Lower gastrointestinal endoscopy after chemoradiotherapy showed only a scar in the anal canal and an ulcer in the rectum (Fig2). There was no carcinoma on biopsy of that region. Contrast CT scan after chemoradiotherapy revealed that wall thickening and lymph nodes swelling disappeared (Fig3). In positron emission tomography-computed tomography (PET-CT) scan after chemoragiotherapy, abnormal accumulation was not observed, and she was diagnosed with metabolic complete response (CR) (Fig4). After chemoradiotherapy, she was administrated S-1 (80 mg/day, given on days 1-14, every 3 weeks) for 6 months. No malignant findings or lymph node enlargement was observed on magnetic resonance imaging (MRI) scan of the pelvic cavity after the completion of S-1 therapy (Fig5). Tumor markers have not increased again although S-1 was discontinued.

## Figures

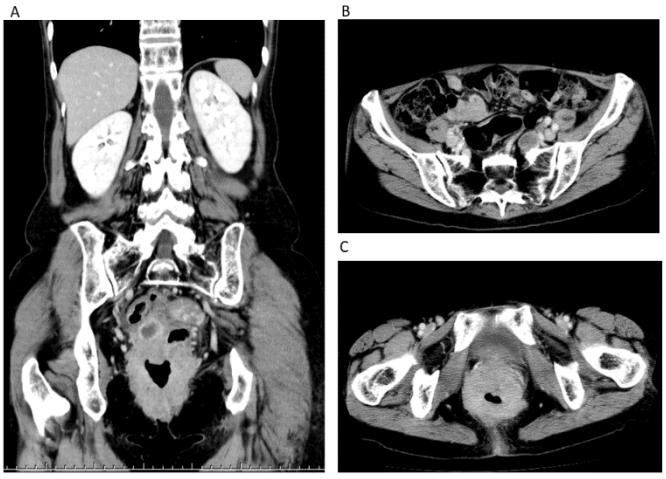


**Figure 1**

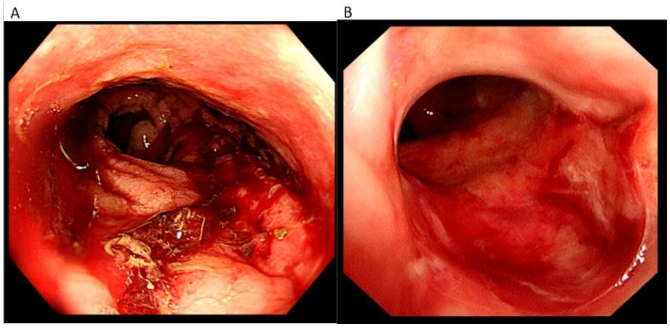


**Figure 2**

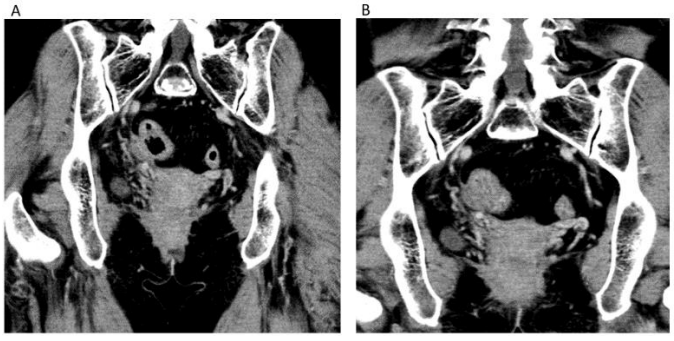


**Figure 3**

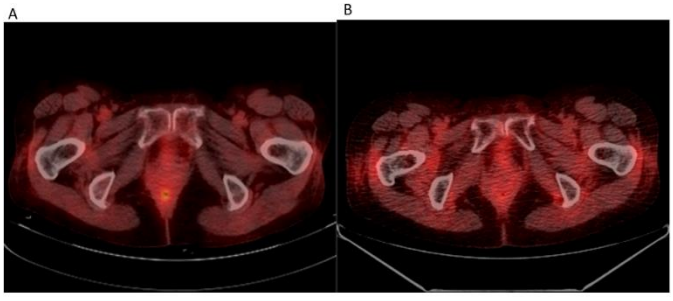


**Figure 4**

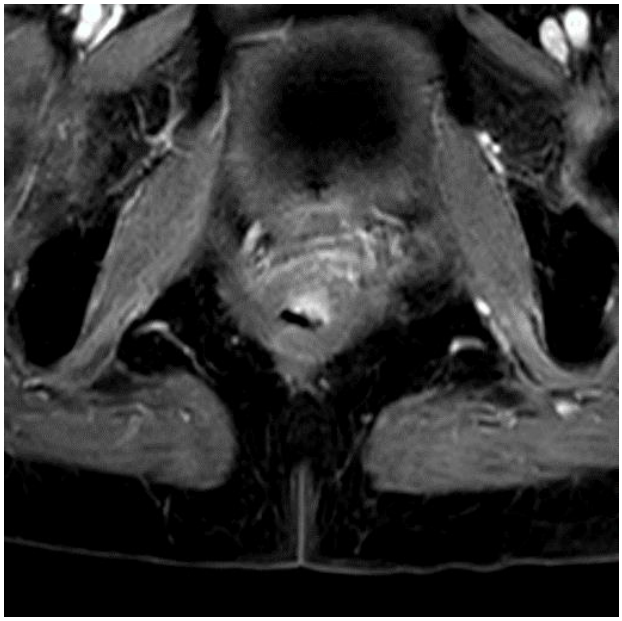

**Figure 5**

**Figure Legends**

**Fig. 1 –** CT scan showing a 9×6 cm tumor and stenosis in the anal region, swelling inguinal lymph nodes.

**Fig. 2 –** Lower gastrointestinal endoscopy (A)after DCS therapy 3 cycles. (B)after chemoradiotherapy showing only scar in the anal canal and ulcer in the rectum.

**Fig. 3 –** CT scan (A)after DCS therapy 6cycles (B) after chemoradiotherapy showing no wall thickening and lymph nodes swelling.

**Fig. 4 –** PET-CT scan (A)after DCS therapy 6cycles (B) after chemoradiotherapy showing no abnormal accumulation.

**Fig. 5 –** MRI scan after completion of S-1showing no malignant findings or swelling lymph nodes.

## Discussion

We reported a patient with anal squamous cell carcinoma that was diagnosed with metabolic complete response by PET-CT after DCS therapy and sequential RT as primary treatment.

Anal squamous cell carcinoma is reported at a frequency of 1-5% of all gastrointestinal malignancies [1, 2]. The histological types are reported as adenocarcinoma and mucinous carcinoma at 73.7% (including 6.9% combined with anal fistula), squamous cell carcinoma at 14.7%, malignant melanomas at 3.9%, basal cell carcinoma at 1.6%, adenosquamous cell carcinoma at 1.0% in Japan, although squamous cell carcinoma is more prevalent in Western countries [7]. In Japan, treatment approach for anal canal cancer is derived from the rectal cancer since there are no specific guidelines [8]. A combination of mytomycin C and 5-FU or mytomycin C and capecitabine + RT for locoregional disease, and cisplatin-based chemotherapy + RT for metastatic disease are recommended in Western countries [3]. In Japan, historically, an abdominoperineal resection (APR) was commonly performed but recently the rate of chemoradiotherapy has increased [4]. A phase I/II trial of chemoradiotherapy concurrent with S-1 plus mitomycin C in patients with clinical stage II/III squamous cell carcinoma of anal canal is ongoing [9]. Japanese case reports indicate that cisplatin and 5-FU, mytomycin C and S-1, cisplatin and S-1 with RT are effective [10, 11].

A combination therapy with taxane, platinum, fluoride pyrimidine has been reported effective in the treatment of esophageal squamous cell carcinoma, head and neck squamous cell carcinoma and other SCC tumors [5, 6]. In Japan, the efficacy of DCS therapy for SCC is being investigated as well [12]. Kim et al. reported the usefulness of docetaxel, cisplatin and 5-FU (DCF) therapy in 8 patients with recurrent anal SCC after chemoradiotherapy. The overall survival rate at 12 months was 62.5% [13]. Now a phase Ⅱ study is ongoing [14].

In this case, DCS therapy followed by RT therapy as primary treatment was effective in the treatment of anal SCC. The 3-drug combination therapy of taxane, platinum, fluoride pyrimidine with RT as primary treatment may be useful in anal SCC treatment although an accumulation and analysis of more data is necessary for confirmation

.

## Conclusion

We reported a patient with anal canal cancer who received DCS therapy and sequential RT as primary treatment and was diagnosed with metabolic CR in PET-CT as a result.

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