Ambulatory 5FU infusion pumps: Patient perceptions and quality of life

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Background

The chemotherapeutic agent 5-fluorouracil (5FU), is an antimetabolite used in the treatment of various cancers by inhibiting DNA and RNA synthesis . Studies conducted in the 1970s suggested that cells continually exposed to the drug achieved greater therapeutic effect. In particular, one group compared usage of bolus 5-fluorouracil with that of infusional 5-fluorouracil in the treatment of colon cancer. Although overall survival did not differ between the groups, response rate was higher in the patients who underwent infusional 5FU than those who simply received the bolus.

The 5-fluorouracil is administered as a 48-hour infusion in most of the regimens containing it, although sometimes continuously anywhere from 5 days to 5 weeks. Given the fact that patients are required to carry their chemotherapy with them when undergoing such treatment, that we use these devices so often, and that we have never undertaken a formal process questioning patients about the subjective limitations of these pumps, we administered a questionnaire to infusional- 5FU patients at our institution. The goal was to elicit insight that could then be used to educate future patients.

Material and Method

After verbal consent, a sequential cohort of patients, who had received 2 or more treatments with inf-5FU for gastrointestinal cancer, was invited to complete a de-identified paper questionnaire concerning their experience. Eleven specific questions suggested by the GI group were included, with an opportunity to add comments. The surveys were then collated and reviewed.

Result and Discussion

The cycle-specific scheduled-depended antimetabolite 5-flourouracil (5-FU) has been in clinical use for 40 years and has evolved as an important agent in the treatment of large spectrum of tumors, including all gastrointestinal cancers, breast cancer, head and neck cancer, and bladder cancer.

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Question	Answer # patients (%)		
	Yes	No	No answer
Did the idea of an infuser deter you from chemotherapy?	3 (4.2)	67 (93.1)	2 (2.8%)
Did the infuser affect your social interactions?	18(25)	54 (75)	
Did the infuser disturb your sleep?	27 (37.5)	45 (62.5)	
Did the infuser affect your travel plans?	15 (20.8)	51(70.8)	6 (8.3%)
Did wearing the infuser deter you from intimacy with your partner?	19 (26.4)	39 (54.2)	14 (19.4)
Did you feel that your medical team appropriately prepared you?	67 (93.1)	1(1.4)	4 (5.6%)
Did you have anxiety associated with wearing the infuser?	18 (25)	51 (70.8)	3 (4.2)
Did the infuser alter your work habits?	5(6.9)	60 (83.3)	7 (9.7)
Did the infuser affect bathing?	53 (73.6)	16 (22.2)	3 (4.2)
Did the infuser affect driving?	2 (2.8)	68 (94.4)	2 (2.8)
Did the infuser affect exercising?	22 (30.6)	44 (61.1)	6 (8.3)

The modern era of infusional administration of 5-fluorouracil began in the early 1980s, and was aided by the availability of central venous access devices and of ambulatory infusion pumps for outpatient administration.

Seventy-two patients with gastrointestinal cancer who had received at least two cycles/treatments with inf 5FU approached from Mid-October 2017 to Mid-April 2018, completed surveys. There were a variety of answers to each question, reflecting the different experiences of each patient.

While most patients felt well prepared by their medical team as to what to expect from the ID (93.1%), ≥ 25% had issues with bathing (73.6%), sleep (37.5%), exercising (30.6%), intimacy (26.4%), social interactions (25%) and anxiety (25%).

Conclusion

While most patients felt well prepared by their medical team as to what to expect from the ID (93.1%), ≥ 25% had issues with bathing (73.6%), sleep (37.5%), exercising (30.6%), intimacy (26.4%), social interactions (25%) and anxiety (25%). These insights will be used to improve the education of future patients and a second assessment will follow.

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