

A Study on Follow up of Survived Patients in Radiation Oncology Greater Area Database by Web Mail

Keiji Shimizu*^a, Masako Harano^b, Hajime Harauchi^b, Hiroko Kou^a, Yu Kumazaki^a, Masatoshi Ishibashi^a, Hodaka Numasaki^a, Munenori Yoshioka^b, Kiyonari Inamura^b

^aGraduate School of Medicine, Osaka University

^bSchool of Allied Health Science, Faculty of Medicine, Osaka University

e-mail: keiji-s@sahs.med.osaka-u.ac.jp

ABSTRACT

We developed a system that can assist to automatically survey survived patients and to lighten the hard work imposed on radiation oncologists employing Radiation Oncology Greater Area Database (ROGAD) and Internet by web mail.

Keywords: radiotherapy database, follow up database

1. INTRODUCTION

A system that can lighten hard deskwork by radiation oncologists in follow up of survived patient employing ROGAD by Internet was developed. The method uses web mail constructed on ROGAD server. We do not use ready made general e-mail software any more, and make most of simple e-mail software of our make, because it doesn't need to set up name of server such as POP and SMTP.

2. MATERIALS

A record of clinical history of radiotherapy in ROGAD has data registration items of "alive or dead" and "the date of last follow up". So far, those data have been renewed by the method in which ROGAD office sent a follow up survey sheet (Figure 1) of a patient to each institution by postal mail, and radiation oncologists confirmed state of survival by getting touch with a referring physician of the patient by telephone or a letter, and a follow up survey sheet of the patient were returned to ROGAD office.

7th follow up record of radiotherapy					JASTRO
Patient Information					
a. JA regis. No.	<input type="text"/>				h. Alive or dead
b. Inst name	<input type="text"/>		code	<input type="text"/>	
c. Patient ID	<input type="text"/>		d. Registered by	<input type="text"/>	
e. Sex	<input type="text"/>		f. Date of Birth	<input type="text"/>	
g. Primary tumor region	<input type="text"/>		i. The date of last follow-up	<input type="text"/>	
History					
	1~3th	4th	5th	6th	This time
a. Registered by	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
b. Most recent status	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
c. Alive or dead	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
d. Duplicated malignancies	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
(1: Yes, 2: No, 3: Unknown)					
1: In the case of duplicated malignancies					
Topography region ICD-O code	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Morphology ICD-O code :	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
e. Response					
Strongest early effect :	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Region of observation :	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
f. Performance status	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
g. Comment	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Fig. 1. A sheet for follow up record of radiotherapy

3. METHODS

We constructed a web mail system by which each institution's radiation oncologists are able to access the system by their ID and password. We also issue mail account (ID and password) to each institution. A procedure is explained below (Figure 2).

1. This system automatically make a list of patients whose data have not been renewed by the date of last follow up in spite of that a certain span have passed.
2. ROGAD server sends a confirmation e-mail according to the list, asking the radiation oncologists if follow up be conducted or not by web mail.
3. Radiation oncologists access to the web mail by their ID and password (Figure 3).
4. If acceptance e-mail from radiation oncologists is returned to ROGAD server, ROGAD server automatically sends a e-mail of form for the case to a referring physician who orders radiation therapy.
5. The referring physician sends ROGAD server e-mail which tells "alive or dead" and "the date of last follow up".
6. ROGAD server automatically reads returned contents of data and renews items of "alive or dead" and "the date of last follow up".
7. ROGAD server automatically informs to the radiation oncologists that database was up dated by web mail.
8. Every next time of access to web mail system by radiation oncologists, he can confirm that database is in the latest version all the time.

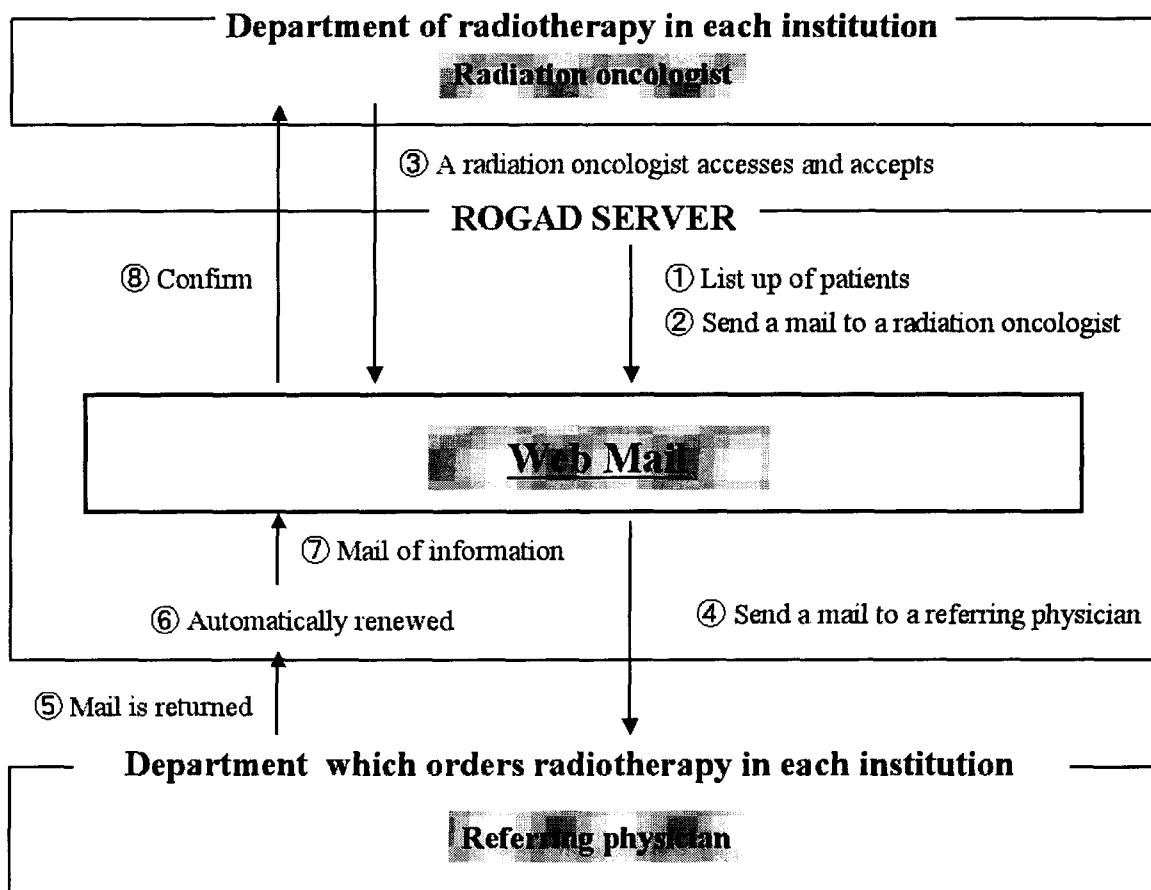


Fig. 2. Methods of follow up

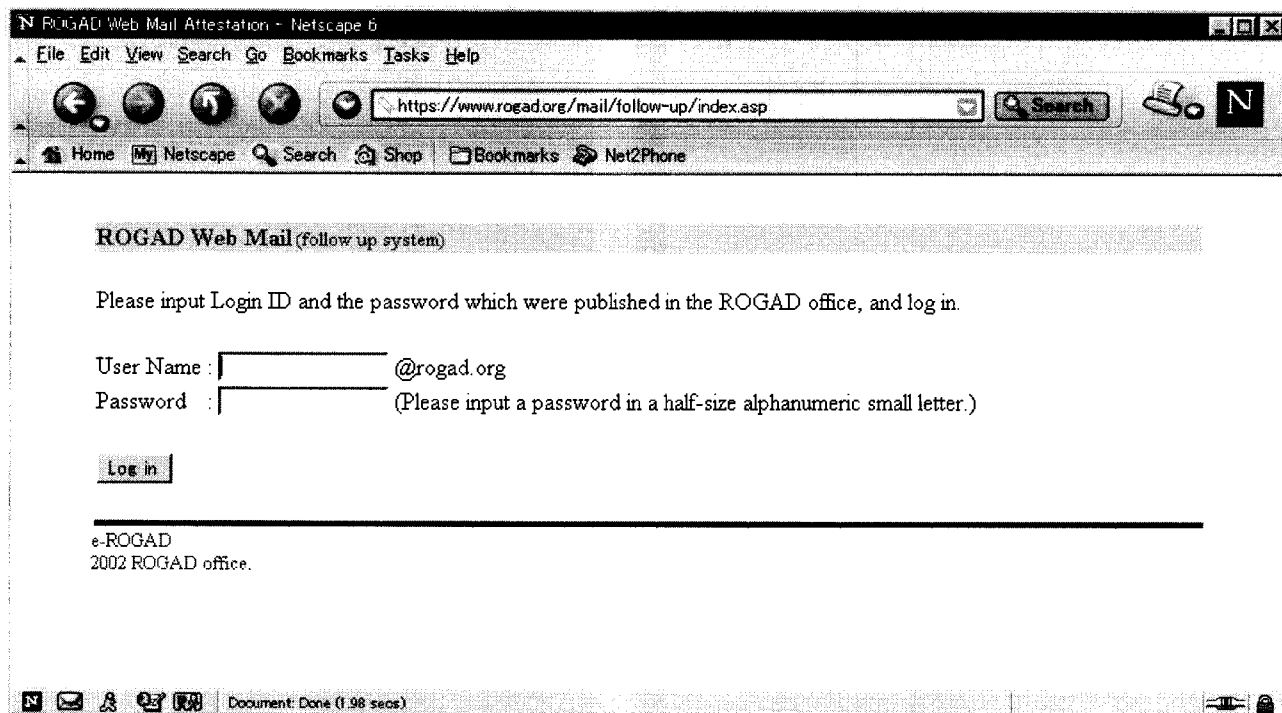


Fig. 3. Attestation screen

4. RESULT

1. Web mail of our development doesn't need complex initial set up. 2. Even if a radiation oncologist or a referring physician of a patient changes, the department or hospital can keep in touch with ROGAD by e-mail, because it has constant and consistent e-mail address given by ROGAD. 3. Even if radiation oncologists don't carry out follow up, data is up dated automatically all the time. 4. Radiation oncologists can watch survived patients and their data in ROGAD server all the time. 5. Due to automatic up date of data in ROGAD server, the accuracy of data was improved and hard deskwork of manual operation for follow up by a doctor was eliminated.

5. CONCLUSION

We sent questionnaires on survey of situation of following up to 725 institutions in Japan, and got 209 answers in them. Institutions where referring physicians carry out a follow up survey are 53% of them. Among them, 82% of department of radiotherapy do not grasp results of follow up survey. Accordingly, most department of radiotherapy can get follow up data from referring physicians by using this system we developed.