especially on the following items: It is difficult to communicate with people with dementia (85.4%); most employers will fire a 65-year-old employee with dementia (76.4%); individuals with dementia would not understand other people's concern or worry (68.5%); individuals with dementia are impulsive and unpredictable (62.9%). These attitudes prevent the Chinese-American general public from encouraging older adults to seek early treatment and hinder public acceptance of individuals with dementia.

Discrimination and shame can have a devastating effect on Chinese-Americans with dementia. Several areas of the lives of individuals with dementia would be affected, including employment and social relationships. Because community support is necessary for dementia treatment, participation of the general public remains crucial to overcoming the stigma of dementia, but lack of understanding of dementia in the Chinese community may contribute to social exclusion and discrimination toward individuals with dementia. An antistigma campaign, especially for Chinese-American immigrants, should focus on clarifying that people with dementia are neither dangerous nor unpredictable and that people with dementia are still functional, productive, and independent citizens in the Chinese-American community and on putting a human face (e.g., recruiting speakers with dementia) to inform the Chinese-American lay public that individuals with dementia understand other people's concerns and worries.

Future studies examining the relationship between knowledge about dementia and the shame associated with it in the Chinese American general public will better illustrate how to alleviate negative stereotyping of dementia. Because the media[2,10] can play an important role in reaching out to this ethnic minority group, it is important to work on media interventions to prevent shame regarding dementia in the Chinese-American general public.

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ANALYSIS OF FEASIBILITY AND TOXICITY OF RADIOTHERAPY IN CENTENARIANS

To the Editor: Life expectancy has progressively increased over past decades concomitantly with advances in medicine and with improvements in standards of living in developed countries. It is estimated that there could be 200,000 centenarians in France by the middle of the 21st century.[1] Although it has been said that cancer in centenarians frequently has modest life-threatening potential, cancer can be a significant cause of morbidity.[2] There are few studies on anticancer therapies in these individuals, and the feasibility of radiotherapy (RT) has never been reported. A multicenter experience with RT in the management of skin cancer in centenarians is briefly described.

Between June 2009 and August 2012, 10 centenarians receiving RT for a histologically confirmed carcinoma were identified, accounting for 0.05% of approximately 12,000 individuals treated in four institutions (two university hospitals, two private centers). One received pelvic RT for a bladder carcinoma, and another received RT for bone metastases from prostate cancer. The eight remaining individuals, who received nine RT courses for a cutaneous carcinoma, were studied. Median age was 101.0 (range 99.8–106.7). Most of the individuals presented with poor general health status and were living in institutions. All tumors were in the head and neck area.

Treatment was delivered with palliative intent in half of the subjects. All RT courses were delivered using a high-voltage linear accelerator. Median total dose was 30 Gy (range 20–49 Gy). All but one individual received hypofractionated RT (HFRT). The median number of fractions was 6 (range 4–13 fractions). Total treatment duration was 17 days (range 3–29 days). Median dose per fraction was 5.75 Gy (range 2.25–8 Gy). For each individual, the total biologically equivalent dose in 2 Gy fractions (EQD2) was calculated using the linear quadratic model and an alpha/beta of 10 Gy for tumors. Total EQD2 was 37.5 $Gy_{\alpha/\beta = 10}$ (range 25–64 $Gy_{\alpha/\beta = 10}$).

Acute toxicities were scored according to the National Cancer Institute Common Toxicity Criteria, version 3, which displays Grade 1 (mild adverse effect) to 5 (death related to adverse effect).[3] Most toxicities were mild to

Table 1. Subject and Tumor Characteristics and Outcome

Characteristic	Subject 1	Subject 2	Subject 3	Subject 4	Subject 5	Subject 6	Subject 7	Subject 8
Age	100.0	99.8	101.2	100.6	100.9	103.0	106.7	101/102.5
Sex	Male	Female	Male	Male	Female	Female	Female	Female
Living place	Home	Institution	Institution	Home	Home	Institution	Institution	Institution
Performance status[a]	2	2	0	3	2	2	1	2
Histology	SCC	Bowen	SCC	SCC	SCC	SCC	SCC	SCC/SCC
Stage	T4NxM0	NA	T3N0M0	T2N0M0	TxN1M0	T4N0M0	Unknown	T2N0/T2N1M0
Previous surgery	Yes	Yes	Yes	Yes	No	No	Yes	No
Irradiated area	Ear	Ear	Check	Check	Lymph nodes	Forehead	Cheek	Nose/lymph nodes
Total dose, Gy	49	32	36	26.7	23	23	48	30/30
Fractions, n	13	4	6	12	4	4	8	6/4
Equivalent biological dose using 2 Gy fractions ($Gy_{\alpha/\beta = 10}$)	56.2	48	48	27.2	30.2	30.2	64	37.5/25
Acute toxicity	Grade 2	None	Grade 2	Grade 3	None	None	Grade 2	Grade 1/Grade 1
Follow-up, weeks	0	7	4	70	0	0	8	108
Delayed toxicity	NA	NA	NA	Grade 0	NA	NA	NA	Grade 0
Best response	Complete	Complete	SD	Complete	NA	NA	Complete	Progression/stable disease
Local progression	No	No	No	No	No	No	No	Yes/NR

Follow-up was calculated from the date of completion of radiotherapy.
[a]According to the Eastern Cooperative Oncology Group Performance Status scale, range 0 (fully active without restriction) to 5 (dead).
NA = not available; NR = not reported; SCC = squamous cell carcinoma.

moderate, with high-grade toxicity requiring treatment disruption reported in only one subject, all toxicities being epithelitis. Three subjects received no follow-up from their radiation oncologist, and median follow-up was 8 weeks in the remaining subjects. Two subjects had more than 6 months of follow-up without delayed toxicity. All subjects were living at last follow-up, and only one experienced tumor progression (Table 1).

Although some data suggest that RT is feasible in nonagenarians, this is the first report focusing on RT in centenarians.[4–6] It showed that cutaneous tumors are the most frequently irradiated tumors, which is not the case in younger individuals. Analysis of the literature suggests that these long-living individuals could be protected from other cancer-related disorders through genetic specificities (low insulin-like growth factor-1–mediated response, high level of anti-inflammatory cytokines).[7] Moreover, this study reflects clinical practice in unselected individuals. Most participants were managed at a late stage of their disease, with tumor-related symptoms. Because of the extreme vulnerability of centenarians, physicians are usually reluctant to perform invasive surgery requiring further reconstruction. Three subjects were treated with RT as single treatment modality; the remaining subjects underwent surgery and then were treated with RT, as adjuvant or for recurrent disease. Because of insufficient follow-up, local efficacy could not be thoroughly examined. These subjects frequently presented with poor general health status and ambulatory difficulties, and most of them followed up with their dermatologist. The study showed that RT was feasible, with low acute toxicity. HFRT is frequently proposed as an alternative to standard fractionation in elderly adults.[8–10] Although hypofractionation can increase long-term toxicity, this is not a significant concern in this population. RT parameters (e.g., total dose, dose per fraction, target volumes) should be chosen carefully because they are associated with acute toxicity. Concurrent radiosensitizers agents are also not recommended because they may increase toxicity. Total equivalent dose was approximately 33% lower than usually recommended in these tumors according the evidence-based guidelines from the National Comprehensive Cancer Network. This study showed that a nonstandard RT scheme is frequently proposed, with lower total doses and frequent use of fractionation, based on the subjective analysis of the physician. Although elderly adults have low physiological reserves and geriatric vulnerabilities, there is no evidence of a relationship between age and local toxicity. Prospective data are required to refine the optimal treatment modality in elderly adults through an integrative oncogeriatric approach.

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FACTORS AFFECTING THE DECISION TO PROVIDE ARTIFICIAL NUTRITION FOR ELDERLY ADULTS WITH ORAL INTAKE DIFFICULTY

To the Editor: One of the most distressing challenges in current geriatric practice is deciding whether to initiate artificial nutrition for elderly adults who are unable to eat. Several studies have indicated the need to improve the decision-making process for artificial nutrition.[1–3] In Japan, the last decade saw increasing concern about the medical and ethical appropriateness of tube feeding in elderly adults with advanced conditions, but it appears that most medical institutions are not equipped to support the decision-making process. An explorative retrospective study on the factors affecting the decision to provide artificial nutrition in elderly adults was conducted.

Fifty-nine subjects were selected from individuals admitted to St. Francis Hospital between September 2010 and February 2012. Inclusion criteria were aged 60 and older, dysphagia, and being given the decision to initiate or withhold artificial nutrition. Percutaneous endoscopic gastrostomy (PEG) was performed in 30 and enterostomy in two, total parenteral nutrition (TPN) was given in eight, nasogastric tube feeding (NGT) was administered in seven, and artificial nutrition was withheld from 12. A comparison was made between participants who did not start artificial nutrition (withholding group) and those who underwent PEG or enterostomy (tube-feeding group). Those who received TPN or NGT were excluded from the analysis because they were generally regarded as temporary treatments.

Participant characteristics were compared according to sex, age, primary disease, length of hospital stay, mortality, serum albumin levels, swallowing function, physical activity, and communicative ability. The assessment methods for the last three variables have been described elsewhere.[4] Analysis of the decision-making process was based on a review of participants' medical records. First, the physician's explanations about the risks and benefits of artificial nutrition were extracted from the medical records. (Analyzable data were obtained from only 23 subjects in the tube-feeding group.) Then, each explanation was typed individually onto a card. The card was then randomly presented to a speech and language therapist unrelated to the hospital, and each explanation was subsequently classified into one of two categories: positive recommendation or nonpositive recommendation.

Participant characteristics of the two groups are shown in Table 1. The number of subjects in the withholding and tube-feeding groups was reduced because of lack of data for the following variables: swallowing assessment (n = 10, 15), physical activity (n = 11, 12), and communication ability (n = 11, 20). Although subjects in the withholding group were significantly older than those in the tube-feeding group ($P = .04$), there were no significant differences in the other participant characteristics. The distribution of primary diseases was not significantly different between the withholding and tube-feeding groups: respiratory diseases (50%, 56%), gastrointestinal diseases (33%, 16%), cardiac diseases (8%, 3%), orthopedic diseases