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## PALLIATIVE TREATMENT OF LATE STAGES OF CANCER WITH RADIOTHERAPY AND THAI HERBAL MEDICINE AS SUPPORTIVE REMEDY. (PRIMARY REPORT OF 4 CASES)

Montien PESEE, M.D.<sup>1</sup>, Pongsiri PRATHANADI, M.D.<sup>4</sup>, Sukachart KIRDPORN M.D.<sup>2</sup>,  
Anucha PUAPAIROJ M.D.<sup>3</sup>, Wichit KIRDPON, Ph.D.<sup>1</sup>

### ABSTRACT

Palliative radiotherapy in late stages of cancer in different sites and different pathology using Thai herbal medicine as an adjuvant remedy in 100 cases showing varying degree of synergistic palliative values which will be analysed and reported after a longer period of follow up.

4 cases with a dramatic immediate response are reported in this paper as a primary report.

In advanced cancer cases, palliative radiotherapy alone or in combination with the appropriate combination of chemotherapeutic agents are the available method of treatment with not fully satisfactory results especially in solid tumours. In this report, the 4 cases having been suffering from different radioresistant tumours with generalized distant metastases showed a dramatic response to the combined treatment with partial to complete regression of the tumours not only in the irradiated areas, but also in areas outside the irradiated field. No undesirable side effects and the patients have returned to spend normal life at home.

In advanced cancer, radiotherapy alone or in combination with chemotherapy are the only available methods of treatment. The disadvantage side effects, poor quality of life and the very expensive chemotherapeutic agents are still undesirable for the poor patients.

We are presenting a primary report of 4 cases of advanced cancers from one hundred suffering cancer patients entered in this clinical trial using palliative radiation with herbal tonic batch G716/45 (*Ganoderma Lucidum*, *Houttuynia cordata Thunb*, *Boesenbergia rotunda*) as a supportive remedy. The results of treatment reveal partial to complete regression of the tumours, improved quality of life, less side effect than the standard treatment which served as a control result for the trial.

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<sup>1</sup> Division of Radiotherapy, Department of Radiology, Srinagarind Hospital, Faculty of Medicine, Khon Kaen University, Khon Kaen, Thailand 40002

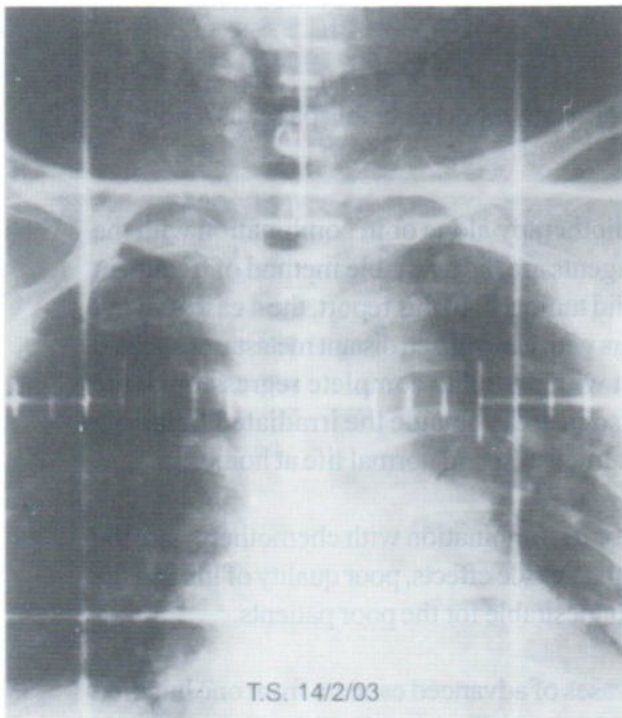
<sup>2</sup> Department of Pediatrics, Srinagarind Hospital, Faculty of Medicine, Khon Kaen University, Khon Kaen, Thailand 40002

<sup>3</sup> Department of Pathology, Faculty of Medicine, Khon Kaen University, Khon Kaen, Thailand 40002

<sup>4</sup> Department of Surgery, Faculty of Medicine, Chiang Mai University, Thailand 50000.

**CASE 1 (T.S)**

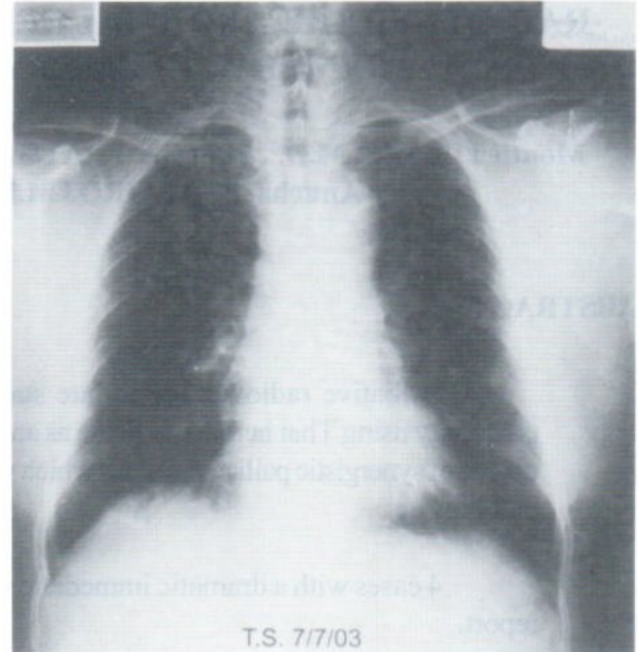
A Thai man, 56 years old came to the hospital with the chief complaints of severe edema of face, neck, both upper extremities and dyspnea. Physical examination revealed Superior Vena Cava syndrome with masses in the left supraclavicular region. Biopsy of the lymph node revealed metastatic squamous cell carcinoma. Film chest showed superior mediastinal masses with multiple nodules in both lung fields. (Fig 1 A.) Palliative Radiotherapy with a dose of 3000 cGy/3 weeks was given to the superior mediastinum and 4500 cGy/4 weeks at left supraclavicular region. Herbal Tonic batch No G716/45 orally 15 c.c. tid ,pc. was given after radiation therapy.



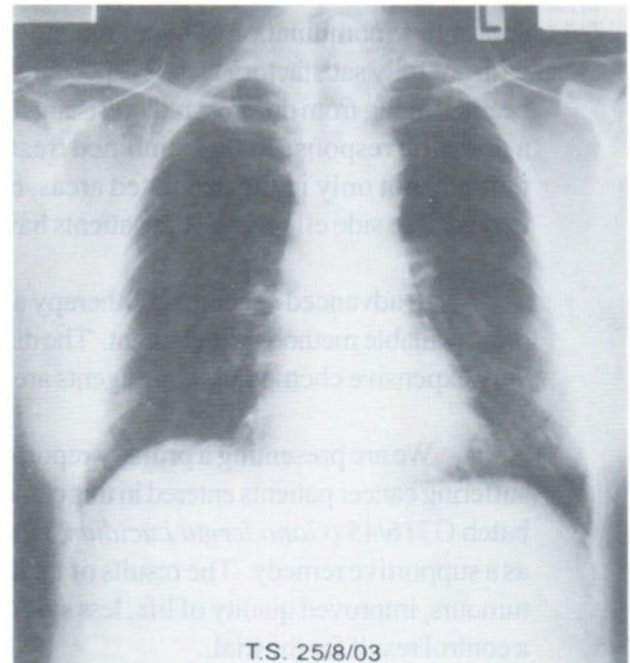
**Figure 1A.** Port chest film showed anterior mediastinal and both supraclavicular masses with multiple nodules both lungs.(Before treatment)

The result of treatment in this case revealed nearly complete regression of the tumour at the mediastinum as shown in Figure 1 B, 1 C with good quality of life, edema of the face, neck and both upper extremities subsided completely.

The patient returned to work normally in accordance with Karnofsky's performance status 70-80%.



**Figure 1 B.** (After treatment 4 months)



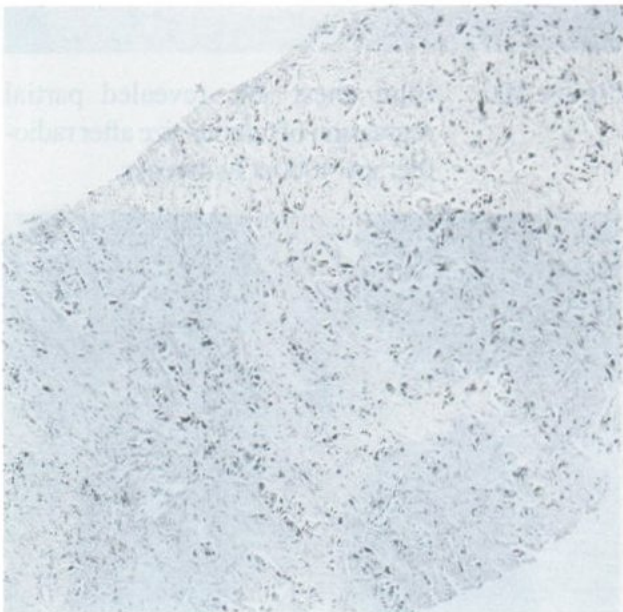
**Figure 1 C.** (After treatment 6 months)  
**Figure 1B, 1C :** Chest film revealed nearly complete regression of the masses at both supraclavicular and the mediastinum.

**CASE 2 (V.V)**

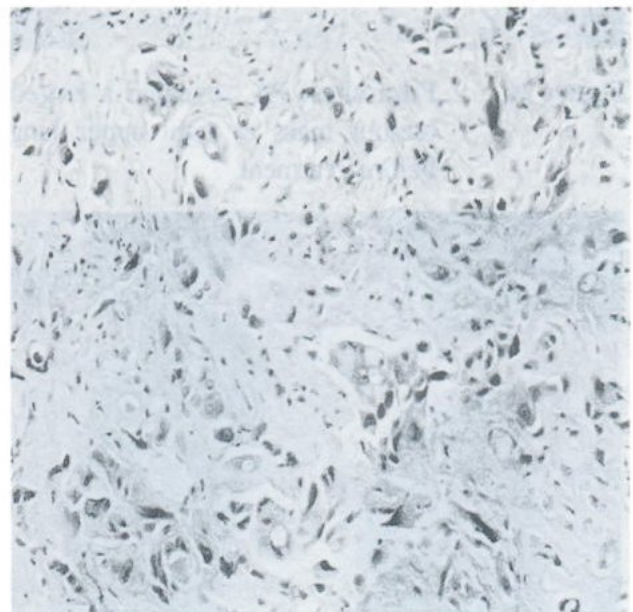
A Thai man 42 years old with, a past history of heavy smoking for 20 years, he complaints of chronic cough , dyspnea and chest pain.Percutaneous needle biopsy of tumor mass at right upper lobe revealed adenocarcinoma,poorly differentiated. (Figure 2A,2B) Chest film showed a larged tumor mass ,size 8 cmx6 cm. at right upper lobe as shown in Figure 2C.The final diagnosis was non small cell lung cancer (adenocarcinoma,poorly differentiated), stage 3B(T3N2-3Mx) with poor performance status.(Eastern Co-operative Oncology Group 2-3)

Treatment 1. Palliative radiotherapy with linear accelerators (6MV) 4,000 cGy/4 weeks at right upper lobe. 2. Herbal tonic batch No.G716/45 15 c.c. orally tid,pc, after radiation therapy of 3000cGy/3 weeks, had been given.

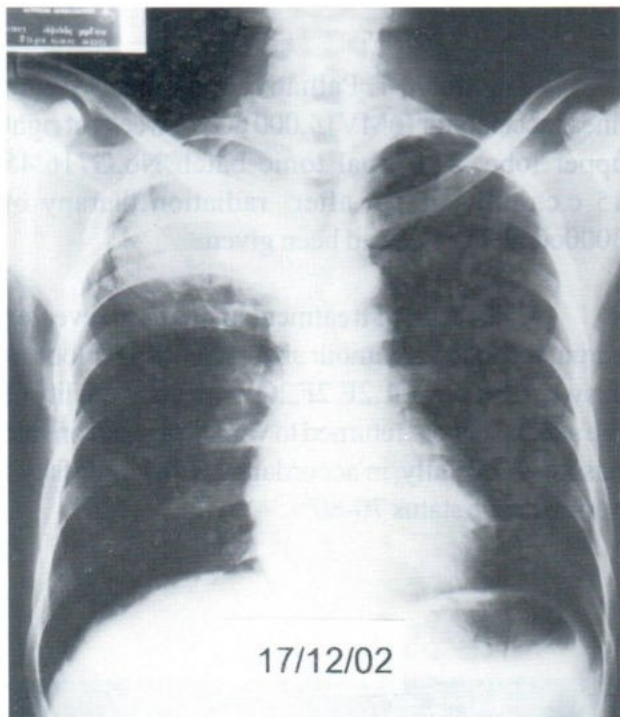
The result of treatment in this case revealed partial response of tumour size at right upper lobe as shown in Figure 2D, 2E, 2F, 2G with good quality of life and the patient returned to work in a small private business normally, in accordance with Karnofsky's performance status 70-80%.



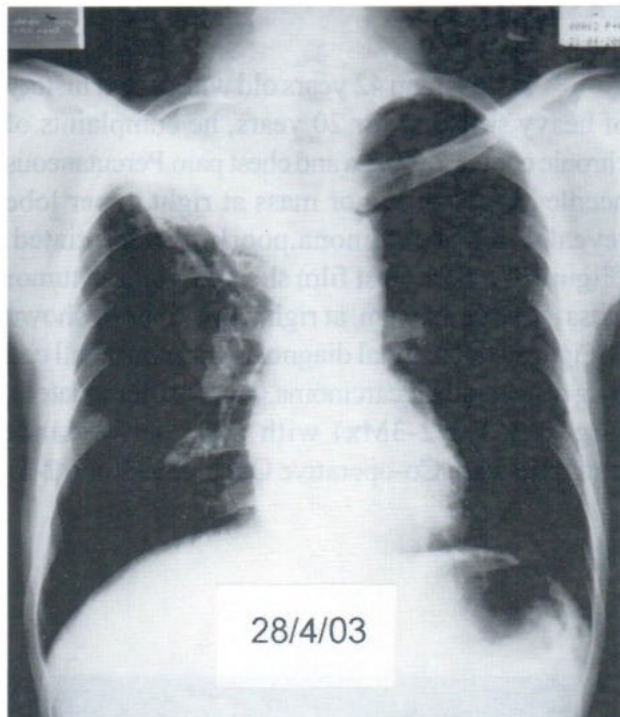
**Figure 2A.** Microscopic picture revealed a sheet of tissue composed of mainly fibrous tissue and embedded atypical cells in adenocarcinoma, poorly differentiated. (100x)



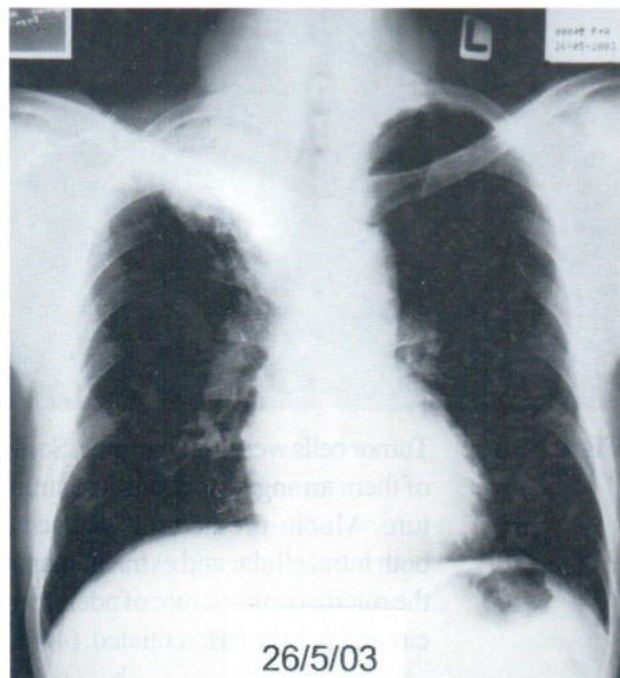
**Figure 2B.** Tumor cells were pleomorphic. Some of them arranged in gland-like structure. Mucin production was seen, both intracellular and extracellular in the microscopic picture of adenocarcinoma, poorly differentiated. (400x)



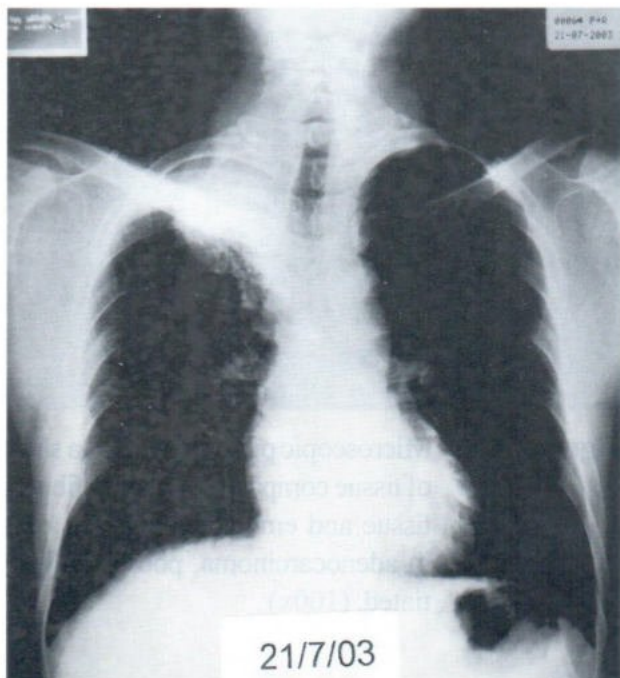
**Figure 2C.** Film chest PA revealed a large tumour mass at right upper lung before treatment.



**Figure 2D.** Film chest PA revealed partial regression of tumour size after radiotherapy 4000cGy/4weeks.



**Figure 2E.** Film chest PA 1 month later after radiotherapy and herbal medicine revealed partial regression of tumour.



**Figure 2F.** Film chest PA 3 months later after radiotherapy and herbal medicine revealed partial regression of the tumour.



**Figure 2G.** Film chest PA 4 months later after radiotherapy and herbal medicine revealed partial regression of tumour.

**CASE 3 (S.K)**

A Thai male 62 years old with complaint of neck mass, hoarseness of voice, dysphagia for 3 months and dyspnea. Physical examination revealed enlargement of both lobes of thyroid gland, more on the left, hard consistency and fixed with underlying tissue. He was referred to Srinagarind hospital with endotracheal tube. Fine needle aspiration revealed anaplastic carcinoma of thyroid (Figure 3A, 3B, 3C). Film chest revealed enlarged neck mass with widening of mediastinum. (Figure 3E). Barium swallowing showed external mass compressing on upper esophagus (Figure 3D)

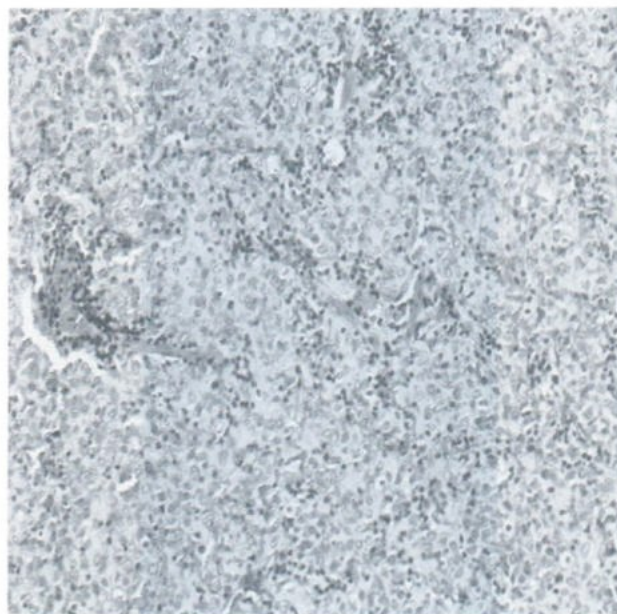
**TREATMENT**

1. Emergency tracheostomy
2. Herbal tonic

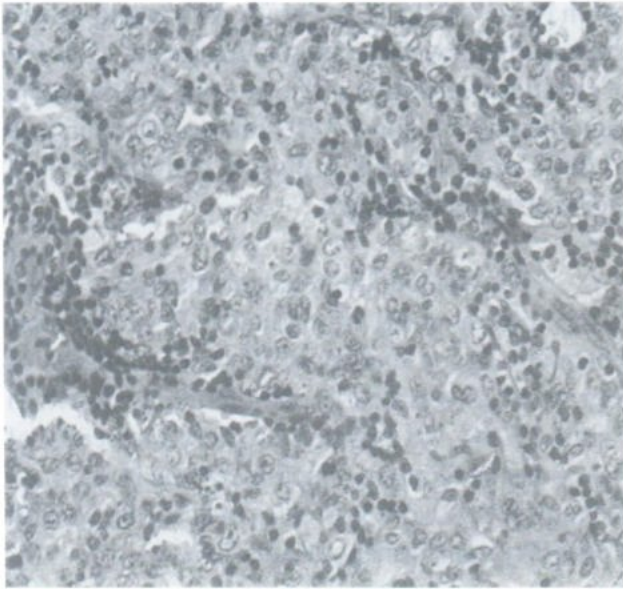
batch No G716/45 15 c.c. orally ,tid,pc and radiotherapy after 3 weeks of herbal treatment. Delayed of radiation treatment was due to a long waiting list in radiotherapy division. 3. Teletherapy tumour dose of 6000 cGy/6 weeks at thyroid and 4000 cGy/4 weeks at the mediastinum.

The result of treatment in this case revealed much improvement immediately 2 weeks after treatment , good quality of life and reduction of thyroid mass was nearly completion as shown in Figure 3F, 3G. No dyspnea, no more hoarseness of voices and swallowing function returned to normal. He returned to work normally in accordance with Karnofsky's performance status 70%.

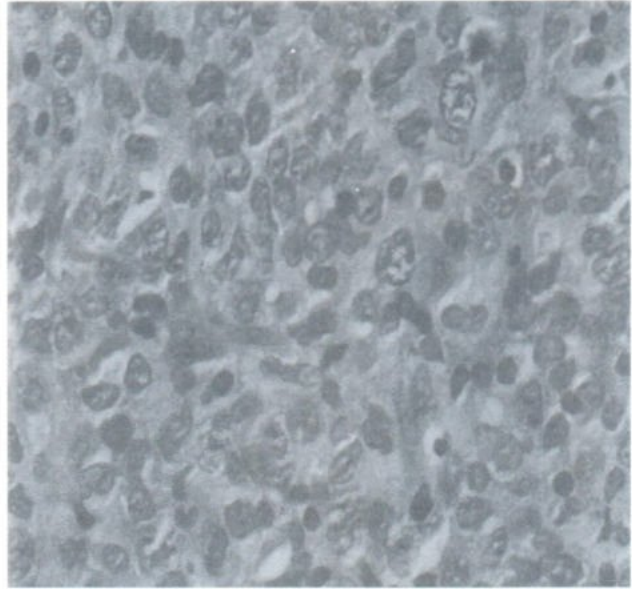
N.B. Due to inadequate radiation therapy machines in the Radiation Therapy Division of the Department of Radiology, Faculty of Medicine, Khon Kaen, palliative cases have to give the priority for the curable cases and have to be put in a long waiting list.



**Figure 3A .** Pieces of poorly differentiated malignant neoplasm arranged in sheets and solid patterns with squamoid appearing in anaplastic thyroid carcinoma. (100x)



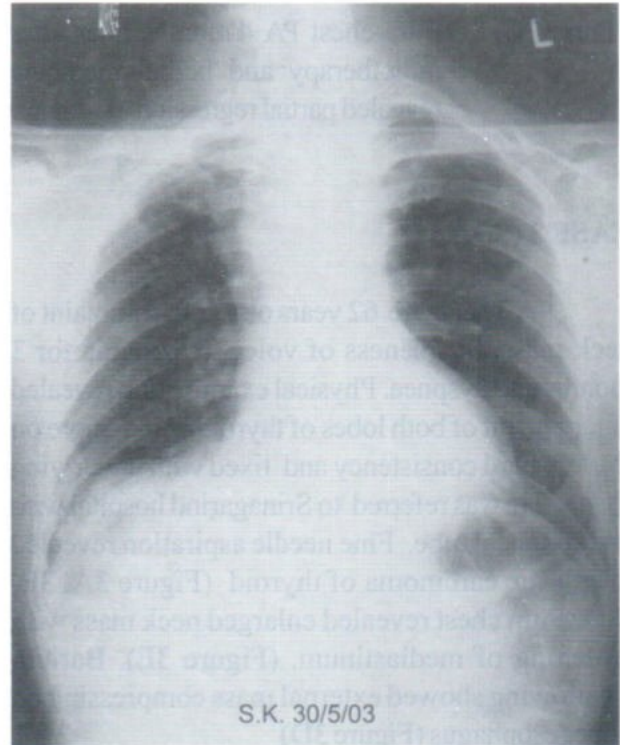
**Figure 3B.** There are scattered inflammatory cells predominantly lymphocytic infiltrate in anaplastic thyroid carcinoma. (200x)



**Figure 3C.** The nuclei were pleomorphic with frequent mitosis in anaplastic thyroid carcinoma. (400x)



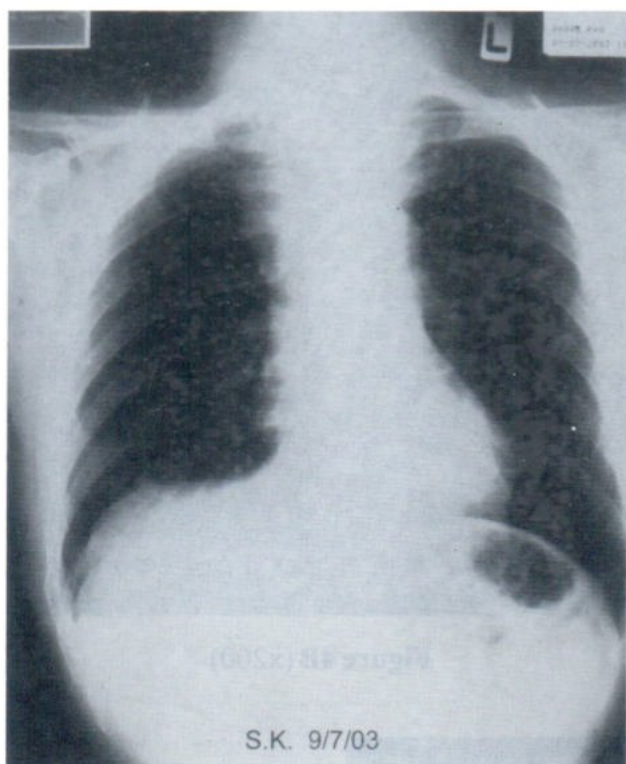
**Figure 3D.** (Before treatment)



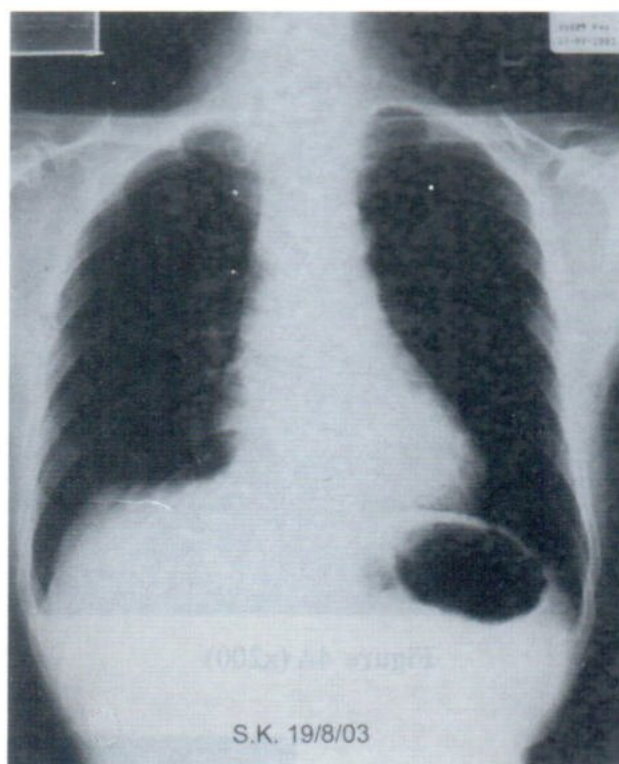
**Figure 3E.** (Before treatment)

**Figure 3D :** Barium swallowing showed external mass compress on upper esophagus.

**Figure 3E :** Film chest revealed enlarged neck mass with widening of mediastinum.



**Figure 3F** (9 weeks after treatment)



**Figure 3G** (14.5 weeks after treatment.)

**Figure 3F, 3G :** Chest film revealed nearly complete regression of the thyroid mass.

#### CASE 4

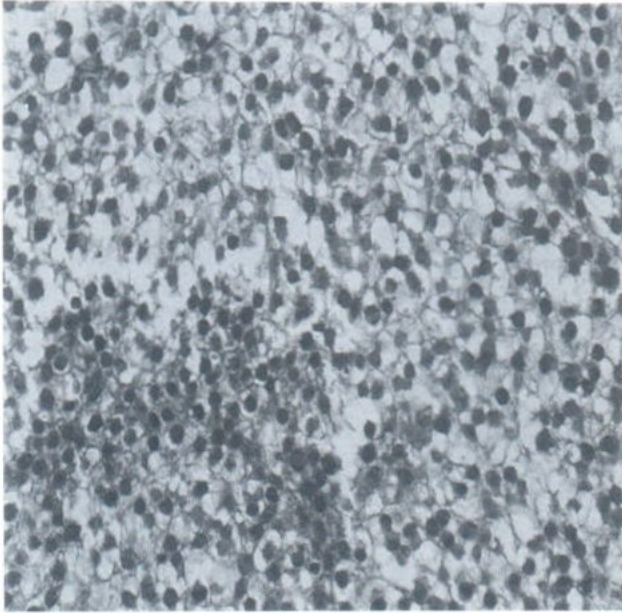
A Thai boy 14 years old with a history of polydipsia, polyuria for 4-5 months, followed by headaches, blurred vision, weakness of upper and lower extremities. The patient became semiconscious, can not walk and talk when admitted. Craniotomy was performed and tumour biopsy reveals oligodendroglioma. (Figure 4A, 4B, 4C) Computed tomography brain scan found to have wide spreading subependymal tumors with dilatation of the whole ventricles as shown in Figure 4D, 4E, 4F, 4G, 4H, 4I, 4J

#### TREATMENT

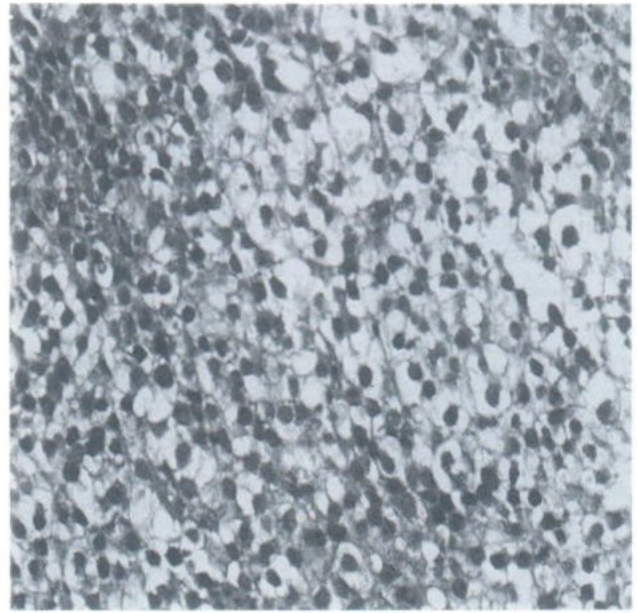
1. Steroid intravenous therapy to reduce brain edema before radiotherapy. 2. Teletherapy (Cobalt 60 unit machine), whole brain irradiation,

tumour dose of 2850 cGy/9 weeks (titration dose) with herbal tonic batch No. G716/45 15c.c orally O.D.pc. 3. VP-shunt to relief severe hydrocephalus after a tumour dose of 575 cGy/4 weeks

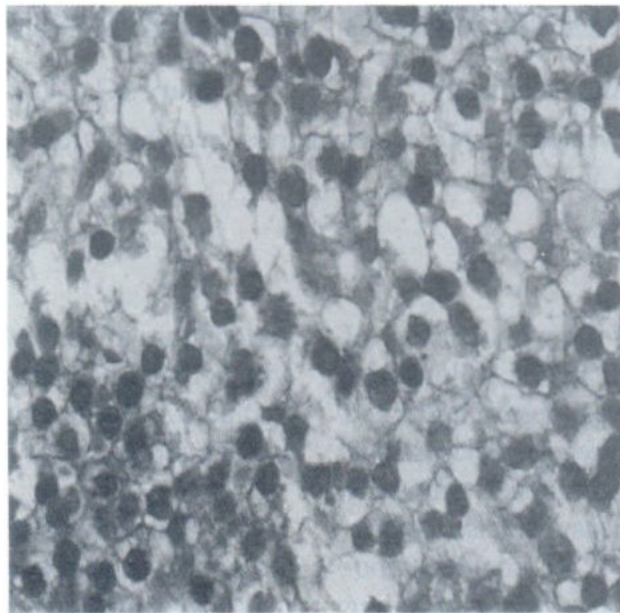
The result of treatment in this case revealed much improvement of symptoms. The patient can walk right after completion of treatment and can communicate with other people. Computed tomography brain scan revealed severe hydrocephalus with no evidence of tumour left in ventricles or the subependymal areas as shown in Figure 4K, 4L, 4M. (tumour dose 575 cGy/4 weeks) and Figure 4N, 4O. (Tumour dose 2850 cGy/9 weeks). Prolonged time of radiation treatment due to *E-coli* septicemia and poor general condition. The patient shows good quality of life up until the last follow up 6 months after treatment.



**Figure 4A (x200)**



**Figure 4B (x200)**



**Figure 4C (x400)**

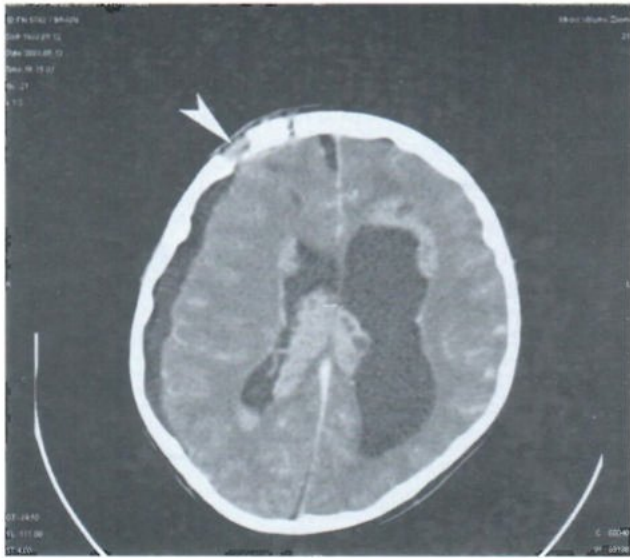
**Figure 4A, 4B, 4C**

**Microscopic picture, Brain, right lateral ventricle:-**

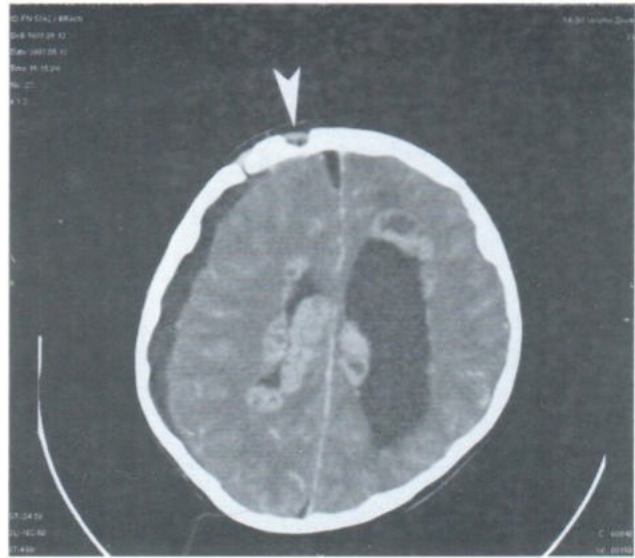
Oligodendroglioma . Figure 4A :The tumor composed of uniform round cells with scanty vascular septa. Figure 4B: The cytoplasm was moderate and clear.

Figure 4C : The nuclei were round and uniform. The nuclear chromatin was rather delicate



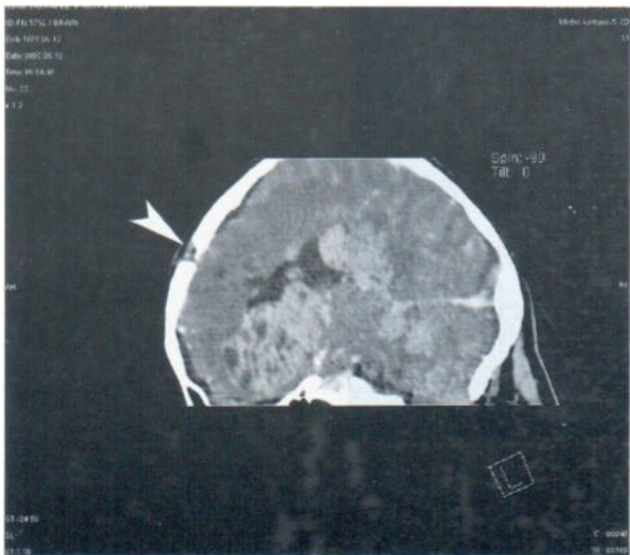


**Figure 4D.**

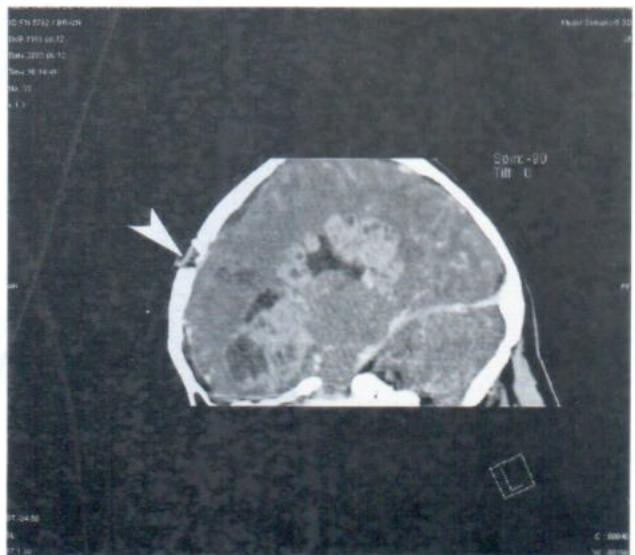


**Figure 4E.**

**Figure 4D, 4E :** Computed tomography brain scan found to have progressive subependymal tumour with dilatation of the whole ventricles and showing the craniotomy site for biopsy. (Before treatment)

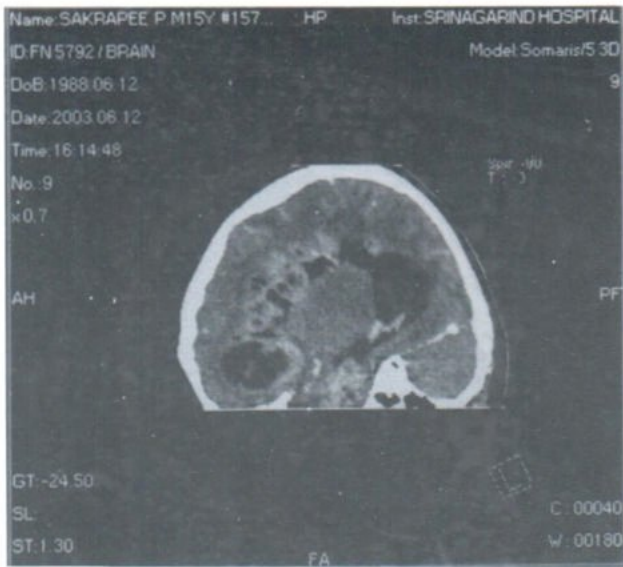


**Figure 4F.**

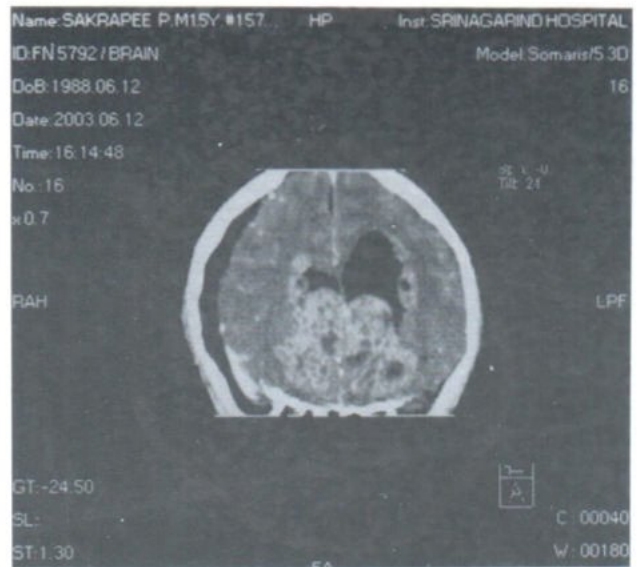


**Figure 4G.**

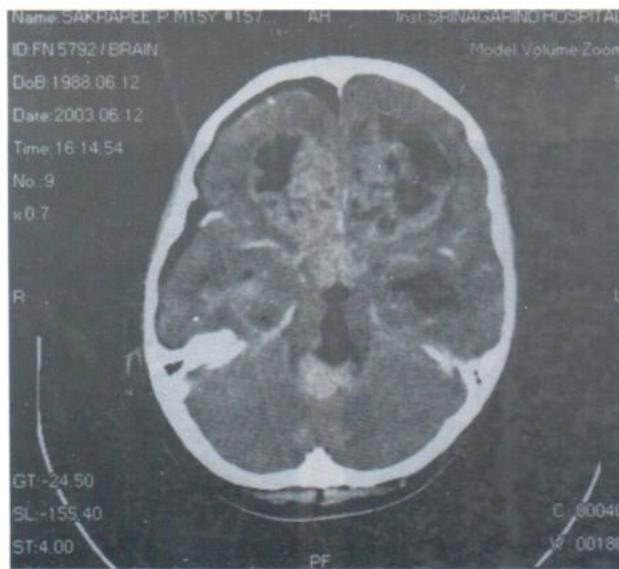
**Figure 4F, 4G :** Computed tomography brain scan found to have progressive subependymal tumour with dilatation of whole ventricles and showing the craniotomy site. (Before treatment)



**Figure 4H.** (Before treatment)

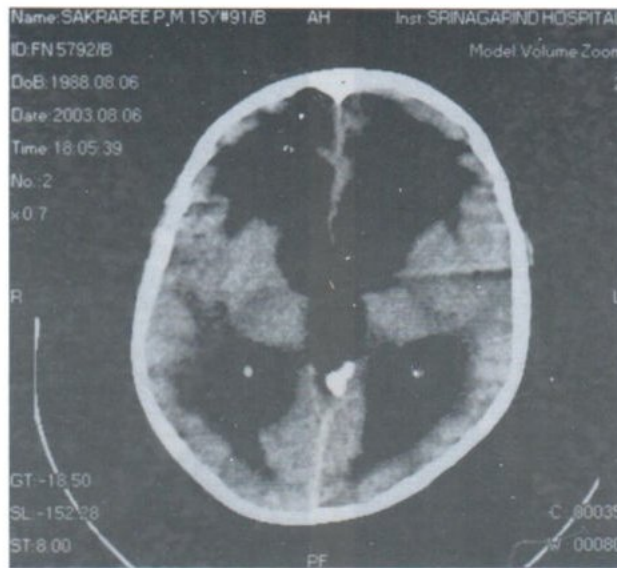


**Figure 4I.** (before treatment)

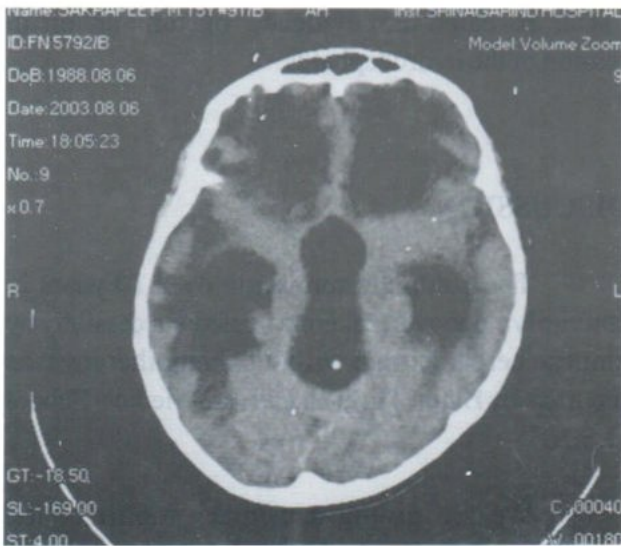


**Figure 4J.** (Before treatment)

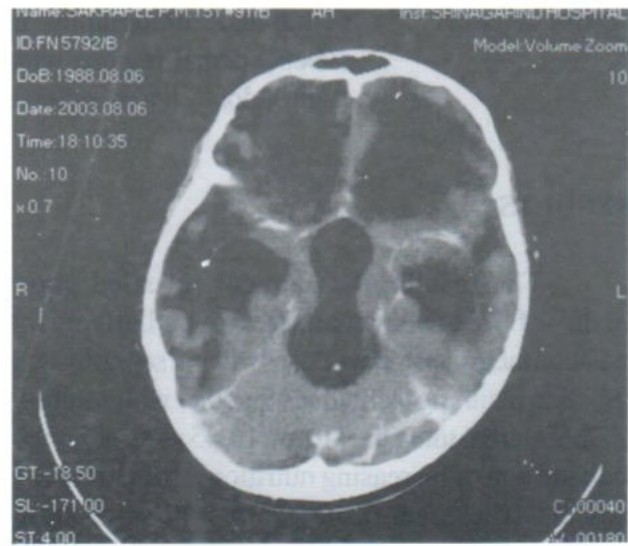
**Figure 4H, 4I, 4J :** Computed tomography brain scan showing to have a wide spreading subependymal tumours with dilatation of the whole ventricles.  
 (N.B. The subependymal tomours in this case was proved to be oligodendroglioma, Figure 4A, 4B, 4C.)



**Figure 4K.** ( 2 months after treatment)



**Figure 4L.** ( 2 months after treatment)



**Figure 4M.** ( 2 months after treatment)

**Figure 4K, 4L, 4M :** Computed tomography brain scan revealed severe hydrocephalus with no evidence of tumour left in ventricles. (tumour dose 575 cGy/4 weeks)



Figure 4N. (3 months after treatment)

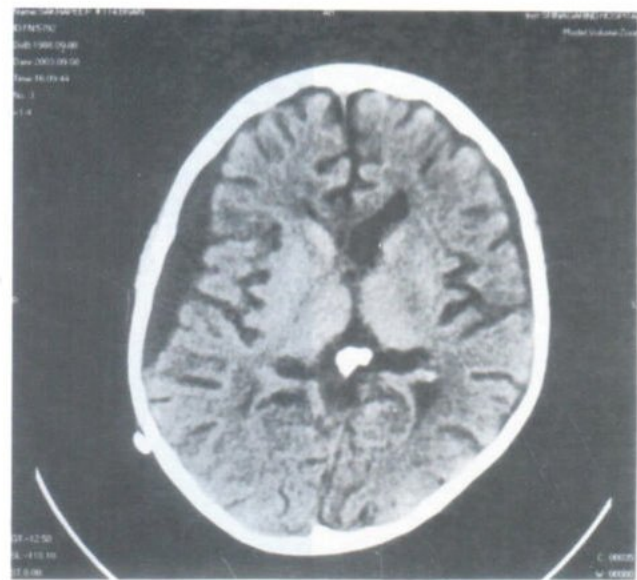


Figure 4O. (3 months after treatment)

**Figure 4N, 4O :** Computed tomography brain scan revealed no evidence of tumour left in subependymal regions with regression of the hydrocephalus. (tumor dose 2850 cGy/9 weeks)

**RESULTS**

The results of treatment revealed good quality of life of all patients treated palliatively by radiation therapy ; palliative doses without sophisticated radiation planning techniques together with solution of Thai Herbal tonic bacth No 716/45 as an adjuvant with the aim of increasing nutritional support to the patients. There were a variety of tumour response among the 100 cases entered into this clinical trial project. More than half of the cases entered into this clinical trial showed a better clinical improvement in comparison with the control group using palliative radiation therapy alone without this adjuvant therapy. The detail results of the other cases will be reported after having been follow up for a longer period of time.

**DISCUSSION**

The complete remission over 10 years in chronic lymphocyte leukemia treated successfully by chinese herbal extract without chemotherapy was reported by Battle TE. et al, Harvard Medical School U.S.A.<sup>1</sup>

We are giving a primary report of the usefulness of the Thai herbal medicine as an adjuvant remedy to a palliative dose of radiotherapy with complete regression of subependymal tumours of Oligodendroglioma, a radioresistant tumour, and another two advanced cases of CA lung , CA thyroid with one case of metastatic tumour to the lungs and mediastinal nodes causing a Superior Vena Cava obstruction Syndrome. All the four cases showed an immediate dramatic responses with clinical improvement and nearly complete regression of the tumours. We will followed all these cases and making a final report after 1 year.

The Thai Herbal extraction consisted of three main ingredients namely *Ganoderma lucidum*, *Houttuynia cordata* Thunb (leaves) and *Boesenbergia pandurata* Holtt (Kra Chai) which are edible plants, well known to the Thai people for several decades. They have been used as flavouring agents in cooking Thai food for countless generations in different parts of the country, especially for hot curries.

*Ganoderma lucidum* belongs to the Basidiomycotina class of fungi. The fruiting bodies of *G. lucidum* have been used as a tonic and a favorite remedy in China and other Asian countries for thousands of years.<sup>2</sup> Anti tumor effects of polysaccharides of *G.lucidum* was reported by Lee S.S et al.<sup>2</sup>

*Houttuynia cordata* Thumb (leaves) and *Boesenbergia pandurata* Holtt (Kra Chai) are edible plants of Thailand which were found to be a promising source for effective anti-tumor promoting activities in vitro reported by Murakami A. et al.<sup>3</sup> Herbal tonic batch No G716/45 are healthy tonic for all persons (sick or well) and it has been registered as a tonic, available without prescription by the Thai food and drug council. Herbal tonic batch No.716/45 was proven to have no acute oral toxicity in animal study investigated by Suntornatanasat T. et al, Thailand Institute of Scientific and Technological Research.<sup>4</sup> (written personal communications).

From the results of our clinical trial, we are willing to continue our studies using The Thai herbal tonic (batch No.716/45) in combination with radiation therapy in hopeless advanced cancer cases and also in some earlier cases with radioresistant tumour to improve the cure rate or prolonged survival rate with good quality of life.

## CONCLUSIONS

1. The results of radiotherapy in late stages of cancer using Thai herbal medicine as an adjuvant remedy in four kinds of advanced cancer such as lung, thyroid and brain are very promising with good quality of life and prolonged remission periods.

2. This combinations adjuvant therapy is promising in the aspect of cost effectiveness and availability.

3. It is worthwhile to have further studies not only for the palliative effect but also the curative effect with low cost and readily available in our country.

## ACKNOWLEDGEMENT

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