EXPERIENCES IN MIDDLE EASTERN POPULATIONS

Historical Perspectives and Trends in the Management of Pain for Cancer Patients in Oman

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Abstract

Introduction. Sultanate of Oman is the second largest country in the Gulf, with a population of 2,867,428 (2008) of which 35.2% is under 15 years and only 3.7% above 65 years. Incidence of newly diagnosed cancers is also the second highest in the Gulf with 11%. Research conducted between 1997-2007 revealed that the most frequent cancers in males: stomach 10%, non-Hodgkins lymphoma 8.6% and prostate 7% while in females: breast 18.9%, thyroid 8.3% and cervix uteri 6.5%. A population-based registry was established in 1996 to compile an accurate database and monitor cancer trends. There is a rigorous follow up of reported cases. Unfortunately most patients report at the hospitals in advanced stages which complicate pain management. All treatment modalities of cancer are available in Oman at the two centers, Royal Hospital and SQUH. There is a continuous effort to develop national educational guidelines, protocols for cancer treatment, palliative care and pain management (PM). Historical Perspectives and Trends in the Management of Pain. In 1970s Omanis used traditional medicine, wassam (moxibustion), to treat pain. In 1988 severe pain was treated in hospitals with intramuscular opioid, whenever necessary (PRN). 1989 SQUH approved use of both parenteral and oral narcotics, received its first consignment, and started PM. The Ministry of Health (MOH) was concerned with possible misuse and for 8 years, thereafter, SQUH was the only hospital allowed to import, stock, prescribe and dispense oral narcotics. Legal requirement to obtain opioids in Oman involves MOH and World Health Organization (WHO) and there is a control as to who can prescribe for both inpatient and outpatient. The drugs available to control pain include non opioids, weak opioids, but the only strong opioids used for severe cancer pain are morphine and Fentanyl. This is complemented with adjuvant drugs. We use the "WHO Ladder" to guide us in the management of pain. Three different cases have been presented to see how PM of cancer patients has evolved from using only non-opioid in 1993, to using intramuscular pethidine in 1995, then to using morphine with adjuvants in 1999. Referral of patients to the PM Team has improved the pain control and at present even without referral, pain is controlled more effectively. Conclusion. There is no doubt that the Sultanate of Oman has progressed tremendously since 1970. The Government is working very hard and is taking major steps to improve cancer care in order to meet the International Bench Mark. Each 5 year plan focuses on actual needs. One of the important needs that have been addressed is the management of pain which has significantly improved. Factors that have improved PM in Oman include the introduction of the PM Teams, training of Nurses and Doctors, follow up of the PM services in the clinical areas, authorizing MOH hospitals to use oral opioids, opening of the National Oncology Centre with Radiation Therapy, inter institutional discussions and development of guidelines, implementation of WHO Guidelines on PM and audits, peer reviews and research.

Keywords: Cancer pain - management - Sultanate of Oman - WHO guidelines

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Background

Sultanate of Oman is located on the South East corner of the Arabian Peninsula. It is the 2nd largest country in the Gulf, with an area of approximately 309,500sq kilometers. The total coastline is around 1,700 kilometers. 82% of the total area is desert. The country has been divided into 10 health regions (Governates)(Sultanate of Oman MOH, 2008). In 2008 – the Population was 2,867,428 of which 1,967,180 were Omanis and 900,248 expatriates. 35.2% of the population is under 15 years and only 3.7% above 65 years of age (Oman Cancer Report of the MOH, 2008). Incidence of newly diagnosed cancers in Oman is the 2nd highest among the nationals of the 6 Gulf States:11%, the highest is Saudi Arabia-71.8% (GCC Research Centre report of 8yrs :1998-2005). The Oman Hospital Based Cancer Registry was established in 1985. A Population Based Registry covering the entire country was established in 1996 based on case notification. The objective is to compile an accurate database and monitor cancer trends. There is a rigorous onsite follow up of reported cases.

The research that was conducted between 1997-2007, revealed that the most frequent cancers by type and gender

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in Oman are in males: stomach 10%, Non Hodgkin Lymphoma 8.6% and prostate 7% while in females: breast 18.9%, thyroid 8.3% and cervix uteri 6.5%.Overall leukemia is very common as well. The head and neck cancer, marked separately as cancers of the larynx, mouth, oral cavity etc in the registry account to be around 65-70 each year making them the 4th-5th most common cancers. Unfortunately most patients report at the hospitals in advanced stages and this compounds and aggravates the issue related to pain management.

Cancer Control and Treatment

The main goal of Cancer control agencies in Oman is the development and implementation of cancer programmes that allow assessment of Cancer burden which in turn, set priorities and achievable targets. There are four major components of Cancer control programme which includes prevention, early detection, treatment and Palliative Care with control of pain and symptoms. The Ministry of Health in conjunction with Primary Health Services play a major role in promoting healthy lifestyle, developing and implementing tobacco control policies, conducting campaigns to increase awareness about cancer in general with special focus on breast and cervical cancers. A screening programme is being piloted in two regions.2 A non Governmental Organization (NGO), National Association for Cancer Awareness(NACA), was founded in 2004, by a cancer survivor. The aim was to educate, train the public and support cancer patients and research. As part of prevention and early detection initiative, the NACA has launched the 1st mobile mammography unit in November 2009, for women who do not have access to screening and education.5 The positive cases are referred to oncology centers and the Criteria for screening and referral have been established.

Oncology Centres

There are two centres treating cancers, the National Oncology Centre (NOC) at the Royal Hospital and the Oncology Units at the Sultan Qaboos University Hospital (SQUH). The Royal Hospital is a 700 bed capacity tertiary hospital which was opened in December 1987.The NOC was commissioned in December 2004. This centre has facilities of Medical Oncology, Radiation Oncology and Paediatric Oncology. Ministry of Health nurses and doctors, from other hospitals go to the Royal hospital for oncology training so that they can continue good care of the cancer patients in the regional hospitals. SQUH was commissioned in February 1990, It is a teaching hospital with a 550 bed capacity. It is involved in teaching nurses, undergraduate and postgraduate medical students, providing tertiary medical care.

At SQUH, patients with cancers are treated in one of the following 4 units: Medical Oncology unit of the Department of Medicine (all solid tumors and Lymphomas in adults; he Department of Haematology (Adult Leukemias); Section of Haematology in the Department of Child Health (Paediatric Leukemias); Section of Endocrinology of the Department of Medicine in conjunction with the section of Nuclear Medicine of the Department of Radiology (Thyroid Cancers).

SQUH is an ISO accredited hospital therefore pain control guidelines, protocols and standards are in place and regularly updated. Clinical audits and peer reviews are conducted.

All treatment modalities of cancer are available in Oman and offered in the above two Oncology Centres, the Royal Hospital and SQUH. Between the two facilities, state of the art medical oncology, Radiation Oncology, Bone Marrow Transplantation and Palliative Care Services are provided. Patients are managed according to disease stage, performance status by surgery, radiotherapy, chemotherapy, hormonal therapy, monoclonal antibodies, the recently introduced signal transduction inhibitors and immunotherapy or multi-modal approach. In addition there is a continuous effort to develop national educational guidelines for cancer treatment, pain management, and palliative care.

Pain Management Evolution Over the Years

Before 1970 Omanis were using traditional medicine, wassam (moxibustion), to treat pain. In 1988 severe cases of pain started to be treated in hospitals with intramuscular pethidine, whenever necessary. 1989 SQUH approved the use of both parentral and oral narcotics and received it's first consignment and started pain management during that year. The Ministry of Health was concerned with the possible misuse. SQUH reassured them of the patients' benefit. For eight years, until 2006, SQUH was the only hospital allowed to import, stock, prescribe and dispense oral narcotics. The SQUH opioids use was randomly monitored by the MOH and the police.

Legal Requirement

Institutions must submit opioid annual requirements to the Ministry of Health who in turn applies to WHO for import authorization. WHO monitors the country's consumption of narcotics and other psychotropic drugs. Senior House Officers are allowed to prescribe for inpatients but for discharged and ambulatory patients the prescription must come from a Registrar level doctor or above. A special prescription must be filled, signed, and stamped then submitted along with an electronic request.

Pain Management Drugs Available in Oman

Include non opioids such as Aspirin, Paracetamol, and NSAIDs, weak opioids Codeine and Tramadol, and strong opioids morphine and Fentanyl. The adjuvant drugs available include antidepressants, anticonvulsants, anxiolytics, steroids, hormones, laxatives, antispasmodics, local anaesthetics, and bisphosphonates. In Oman we use the " WHO Ladder" as a guide in the management of pain.

In SQUH, when we start oral morphine, we give it as syrup for example 10mg every 4 hourly regularly with rescue doses whenever necessary. We give this for two to three days then we calculate the dose needed in 24 hours. We divide into two and give as Morphine Slow Release

tablets while maintaining rescue doses. We adjust the dose after 24 hours if pain is not 90% controlled. If the patient cannot take oral morphine, then it is given by other routes e.g. Continuous Intravenous Infusion.

Special Attributes of Omani patients

As Muslims, Omanis have strong faith. When something good or bad happens to them, they believe that it is a divine fate, they accept it better and they put all their trust in Allah. They tend to under report pain because they think it is part of the disease. Usually they wait until pain or symptoms are severe before reporting. They worry about addiction and therefore are reluctant to take opioids. They have excellent family and friend support and they find that reading Qur'an is very comforting. This helps them a lot in coping with pain.

Patient Education

At SQUH we educate our patients through educating our nurses. We conduct a Pain Management Course twice a year and we stress the importance of informing the patients about the cause of pain and symptoms, the importance of reporting pain when it starts and how to use a pain scale to report pain. The nurses also inform patients to take medication regularly and when to use a PRN (whenever necessary) prescription to control the pain. The nurses ask patients to report effectiveness and side effects of treatment and address their concerns on addiction, tolerance and physical dependence.

Case Reports on Evolution of Pain Management in SQUH 1993-2009

Case No. 1 in 1993

A 65 year old man with adenocarcinoma of the lung, pleural effusion, and involvement of ribs, was under the care of Pulmunologist. He complained of moderate to severe pain and in addition he had severe dyspnea, and depression. The initial treatment was Cysplatin intraplural and Mefenamic acid (Ponstan*) 500 mg three times a day (tid). This resulted in very poor pain relief. So the patient was referred to Pain Management Services which had just started at that time.

Pain Consultation: Neurolytic intercostal blocks were given with phenol and this improved the pain. Ponstan was continued 500 mg tid. Codeine eased dyspnea; a Laxative was started at the same time. Methylprednisolone Intravenously was started and Oral steroids followed. Amitriptyline was given at night. He died peacefully after one week.

Case No. 2 in 1995

A 37 year old lady was admitted with cancer of the left ovary and of the stomach with bone secondaries. She was under the care of Gynaecologist. She was operated one year earlier. She complained of severe abdominal pain, bone pain, anorexia and vomiting. Initially she was treated with Pethidine 75 mg intramuscular PRN with poor pain relief, so the patient was referred to the Pain Management Team.

Pain Consultation: Morphine syrup 10 mg (+Domperidol), was given 4 hourly with rescue doses, a Laxative was started on the same day. NSAIDs tid. and Amitriptyline 25mg at night. Nausea and vomiting resulted in inadequate pain relief. In addition, patient refused to take her medications. Loading dose of IV Infusion of Morphine was titrated until the patient was pain free then Patient Controlled Analgesia was started with Morphine, This controlled her pain. Anti-emetic was changed which controlled the nausea.

She died with dignity, pain and symptom free.

Case No. 3 in 2009

A 57year old lady with cancer of the breast, involvement of lymph nodes, metastasis in the bones with multiple destructive lesions of vertebral bones, pelvic bone, and left scapula. She had modified radical mastectomy 2 yrs earlier. She was admitted with generalized pain all over the body, severe headache, right sided weakness and pain causing difficulty in walking. MRI revealed cord compression and early stage of metastasis of the brain. She had stabbing pain in the rectum. It was later diagnosed that she had a second cancer in the uterus with metastasis in the rectum.

Pain Management Without Consultation: Oral Morphine 60mg titrated until it reached 500mg per day. Later it was changed to Intravenous Infusion 3 mg hourly. A Laxative was started on the 1st day morphine was given. NSAID was given tid, She had Radiotherapy daily for two weeks. Intravenous bolus Methyl prednisolone was started initially 1.5mg per kg./day, 2nd day 1mg per kg/day and then 0.5mg per kg/day; after that it was tapered to oral. Anticonvulsants-Gabapentin 300mg daily, then titrated to twice a day and then three times a day. Antidepressant was given at night. Psychosocial issues were addressed and sorted out. The family was giving her body massage, with warm oil, every night. She read Qur'an daily and listened to music and this gave her comfort and distracted her from pain. The muscle spasm in her back was relieved by Trans-electrical Nerve Stimulation (TENS).

Pain Management Consultation. Patient was referred to the PMT because even though the stabbing pain was better, it was disturbing the patient and the dose of opioid was high. The PMT performed a Lower chain sympathetic (Ganglion of Amper) block with phenol and Ketamin was added in the IVI of morphine. This together with sorting out of psychosocial issues helped to reduce the dose of opioid. At discharge most of her symptoms were controlled and she was taking Morphine orally 100mg twice a day only.

Comparison of the Three Cases:

As you might have noticed both the 1st two cases were initially treated by general physicians. In the first case, moderate to severe pain was treated with only a non opioid analgesic, leaving the patient to suffer from pain. This highlights the fear that most caregivers had about addiction. In the second case pain was treated with an opioid only. Pethidine, should not be used in cases of cancer, because of its metabolite "nor-pethidine" which

has a half life of 18 hours and causes irritation to the central nervous system causing seizures. It is also short acting which means that the patient may have to be given several injections to relieve his pain. Pethidine was also prescribed PRN instead of regularly. This allowed the patient to be in pain before she was given pain relief. With referral to the Pain Management Team the first two patients' pain was effectively controlled and both these patients died pain free and in dignity. With the third case there was a definite improvement in it's initial management. The Oncologists who were looking after the patient have used the right opioid, complemented with a non opioid, and adjuvants, depending on the quality of pain. They had also allowed the patient to use non pharmacological pain relief such as TENS, hot oil massage and had addressed psychosocial issues. Towards the end it was necessary to refer the patient to the PMT and the Oncologists did. So, whenever necessary, patients are referred to the Pain Management Teams for nerve blocks or for the management of other types of pain which are difficult to control. This is how pain is treated now. Improper referrals have reduced and this is due to the knowledge and experience of the primary teams who are specialized oncologists.

Conclusion

There is no doubt that the Sultanate of Oman has progressed tremendously since 1970. The Government is working very hard and is taking major steps to improve cancer care in order to meet the International Bench Mark. Each 5 year plan focuses on the actual needs. One of the important needs that has been addressed is the management of pain which has significantly improved.

Factors that have Improved Pain Management in Oman include the return of doctors who have specialized in Oncology, training of Nurses and Doctors through courses, seminars, workshops and conferences, introduction of the PM Teams, follow up of the PM Services in the clinical areas, authorizing MOH hospitals to use oral opioids, opening of the National Oncology Centre with Radiation Therapy (prior to this all patients had to be sent abroad for radiation therapy), development of guidelines, protocols and standards, implementation of "WHO Analgesic Ladder" and Audits and Peer Reviews.

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