

ENGLISH TITLES

BIOLOGY

A preliminary study of diatoms from flood water of Wadi Aqqan (Lahaj)

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Abstract

In June 2005, samples of flood water were collected from Wadi Aqqan near the bridge of MADRAM (Gol), in Lahaj Governorate. About 18 species were identified from 4 different families, Fragilariaceae, Achnanthaceae Naviculaceae and Nitzschiaceae. Identification was done with KYOWA MEDIUM – 12 / UNILUM – 12 SERIES light microscope. Water temperature was found to be 28o C and chemical analysis of water shows that it is within W H O guide lines.

Key words: Flood water, Floating Diatoms, Wadi Aqqan, Yemen

ENVIRONMENT

Oil contamination of algae in the Red Sea coast of Yemen

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Abstract

Specimen of five marine species of the chlorophyta (*Halimeda Tuna*, *Rhizoclonium Kochiamum*, *Cladophora Koiei*, *Enteromorpha Compressa*, *Caulerpa Racemosa*), five marine species of the Phaophyta: (*Padina Boryana*, *Turbinaria Elatensis*, *Sargassum Binderi*, *Cystoseira Myrica*, *Sargassum Boveanum*) and five marine species of the Rhodophyta (*Hypnea Cornuta*, *Champia Parvula*, *Galaxaura Marginate*, *Laurencia Paniculata*, *Gracilaria Foliifere*) algae, collected from the Red Sea coast of Yemen were analyzed, to find out if there is any oil contamination. The results are different among the marine species of the algae. This contamination is a consequence of heavy ship traffic and/ or local oil operation.

Keywords: oil, contamination, Red Sea, Chlorophyta, and Phaeophyta, marine algae

MARINE SCIENCES

Growth, mortality and spawning of *lethrinus lentjan* in the Gulf of Aden

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Abstract

Biological parameters were estimated for *Lethrinus lentjan* in the artisanal fishery in the Gulf of Aden. Growth parameters were $L_{\infty} = 34\text{cm}$ (standard length for both sexes combined), $K = 1.3 \text{ year}^{-1}$ and $t_0 = -0.11$. Natural mortality coefficient (M) was 1.89 yr^{-1} and the total mortality coefficient (Z) was estimated as 3.31 year^{-1} . Spawning took place during March-May. It is strongly recommended to record continuous and detailed catch and fishing effort data for various species of the artisanal fishery and study their biology.

Keywords: Landing site, mortality, artisanal fishery, gonad index, exploitation rate

MATHEMATICS

An application of N-fractional calculus to a fourth order linear ordinary differential equation

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Abstract

There are many papers which have been published in the same direction of this paper by K. Nishimoto, S.Owa, Shih –Tong Tu and H.M. Srivastava. In this paper a solution is given for a certain form of a homogenous and non- homogenous ordinary differential equation of fourth order.

Key words: N -fractional calculus, differential equation.

MEDICINE

The clinical patterns of breast cancer in patients admitted during a 5 year- period to Al- Gamhouria Teaching Hospital – Aden – Yemen

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Abstract

Breast cancer is the most common cancer of women in both developing and developed countries and it is the principal cause of death in middle aged women .

This is a retrospective and descriptive study performed in Algamhouria Teaching Hospital in Aden–Yemen ,using the registry of the surgical department ,during the period January 1998 through to December 2002. The main objectives were to analyse the various clinical patterns of breast cancer compared with what is found in the literature , concerning age group , mode of presentation , stage of the disease and to indicate the histopathological types and the surgical treatment performed in these patients .

The total number of cases with breast cancer was 76 (0.7 %) of the overall admission . It represented (34 %) of the whole breast disease. All the admitted patients with breast cancer were females .

The range of age were 22 to 88 years , with an average of 46 +/- 11 .

The age group mostly affected was (40-50yrs) representing 30 patients (40.6 %) . The majority 64 (86,5 %) were presented after one month of feeling a breast complaint . Early breast cancer (stage I and stage II) were present in 30 patients (40.5 %) and late breast cancer (III and IV) in 44 (59,5 %) . The tumor size was > 2cm in 64 (86.5 %) and > 5cm in 42 (56.8 %) . Axillary lymph nodes were present in 62 (84 %) . Of which , 44 (71 %) were > N1 stage .

There was no carcinoma in situ among the studied patients , and invasive ductal carcinoma represents 84 % (62 patients) of all breast cancer .The main surgical treatment was mastectomy (modified radical mastectomy for all early breast cancer except one) . The main conclusions were that , first breast cancer in the studied patients was a disease of young with late presentation, advanced disease , and with no carcinoma in situ . Second , patients with breast cancer were mainly treated in surgical department with mastectomy . The recommendations are :

- 1.to perform population based-studies
2. to improve health awareness and earlier diagnosis of the disease by health education programs , encouraging of breast self-examination , and to investigate the feasibility of breast screening program , and
3. finally , to establish a centre of oncology and radiotherapy which is

necessary for Aden city and surrounding areas .

Key words : Breast, cancer, stage , mastectomy .

Pattern of infants feeding in Lahj Governorate; Yemen

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Abstract

The aim of this study is to determine patterns of infant feeding and the association between socio-demographic characteristics and breast-feeding in Al-Hawtah town and the surrounding rural areas/villages. 420 mothers of infants, aged 0-12 months, who attended the MCH center in Al-Hawtah town were interviewed; 230 from Al-Hawtah and 190 mothers from the surrounding rural areas/villages. The data was collected through a structural questionnaire.

In general, 88.6% (n=372) of the total study subject were initiated into breast-feeding. The exclusive breast-feeding percentage of mothers at Al-Hawtah town was 83.9%, while at surrounding villages they constituted 94.2%.

The percentage of exclusive breast-fed infants age 0-2.9, 3-5.9, 6-8.9 and ≥ 9 months were 99%, 98.1%, 75% and 38.1%, respectively.

Approximately, 96.2% of infants were exclusive breast fed at the age 0-6 months and only 3.8% were exclusive bottle-feeding.

Illiterate and less educated, low-income and housewife mothers had a significantly higher percentage of exclusive breast-feeding than mothers, with secondary and university education level and high income, who are working outside the house ($P < 0.05$).

The findings emphasize the need to initiate and/or to provide effectual programs in order to promote appropriate breastfeeding practices in Lahj Governorate and other similar areas.

Key words: Infant feeding, breast-feeding, Lahj Governorate, Yemen.

Asthma during pregnancy

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Abstract

Asthma is one of the most common and potentially serious medical problems in pregnancy with a reciprocal bidirectional effect, pregnancy can affect the course of asthma and asthma can affect pregnancy outcomes. Asthma course may improve, worsen, or remain unchanged during pregnancy.

The objective of this research paper is to evaluate the course of bronchial asthma during pregnancy and the physicians' attitude toward management.

Seventy eight (78) Yemeni mothers with bronchial asthma (mean age 36.3 ± 3.5 years) were asked about the course of asthma during their first pregnancy, their first pregnancy outcomes in terms of newborn body weight, and the attitude of physicians in the obstetric department toward management of asthmatic attacks during their pregnancies.

For the course of asthma during the first pregnancy, 27.0% reported improvement, 33.3% reported worsening, and 39.7% reported unchangeable course of asthma during their first pregnancy. More than half (57.4%) had full term newborn with low birth weight (<2500gms), 35.2% had full term newborn with appropriate birth weight (2500 – 4000gms), and 7.1% had preterm or did not remember their newborn body weight in the first pregnancy. In this study, 69.2% of asthmatic mothers reported that their physicians in the obstetric department immediately ask for medical consultation for the management of their asthmatic attacks during pregnancy and 30.8% reported that their physicians in the obstetric department participate in the management of their asthmatic attacks during pregnancy.

The course of asthma during the first pregnancy is unpredictable; it may worsen, improve, or remain unchanged. Physicians in the obstetric department should be encouraged to participate in the management of their pregnant asthmatic attacks, since all drugs classically used in asthma may be used by pregnant asthmatics.

Key words: Bronchial asthma, first pregnancy, outcome.

Indications for blood transfusion in paediatrics

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Abstract

Transfusion of blood to children even when indicated, is not without risk. This requires that careful consideration should be given before a decision is made to transfuse any blood product to a child. The objective is to study the

common indications for blood transfusion in the Paediatric Department of Aden General Teaching Hospital.

This is a retrospective study for paediatric patients who received blood transfusion at Aden General Teaching Hospital, during the period October - December 2005. The study included 103 paediatric patients (mean age 43.2 ± 39.2 months). More females were transfused (64.1%) than males (35.9%), the F:M ratio (1.8:1).

For the last three months of 2005, in the Paediatric Department of Aden General Teaching Hospital, 24.800 ml of blood was transfused for 103 paediatric patients in a rate of 269.6 ml/day. Around 25.2% of patients received blood twice or more for the same indication, and this occurs in 87.5% of neonates. For 9.7% of patients, no indication was reported. Common indications for blood transfusion were haematological indications (54.4%) such as iron deficiency anaemia (26.2%), sickle cell disease (11.7%) and thalassaemia syndrome (7.7%), followed by other medical indications (35.9%) such as neonatal hemolytic anaemia (under investigations) (13.6%), hemolysis associated with malaria infection (12.6%) and neonatal septicemia (8.7%). Indications were not related to sex ($p>0.05$), but are strongly related to age ($p<0.00001$).

Sick neonates are one of the most heavily transfused groups of patients in this study. However, most neonatal transfusion practice remains opinion based rather than truly evidence based. Paediatricians should establish special guidelines to optimize transfusion practice for Yemeni children.

Key words: Blood Transfusion, Indications, Paediatrics.

Endoscopic findings of upper gastrointestinal bleeding in southern Governorates, Yemen

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Abstract

The aims of this retrospective study are to determine the frequency of bleeding in the upper digestive system in patients undergone endoscopic examination within the last 2.5 years, and to determine the location and origins of these hemorrhages. The methodology consists of analysis of 2470 clinical records obtained from patients previously undergone with endoscopic procedures. These patients were seen at our private clinic in Aden. The study was conducted from January 2004 to June 2006.

A total of 320 patients of clinical symptoms of upper gastrointestinal tract bleeding were studied corresponding to 12.96% of the total patients who have undergone endoscopic examination. There was a significant difference between males and females (55.6 vs 44.4%, respectively). All patients were between 14 and over 61 years old, with a mean age of 43 years. The most affected patients of upper gastrointestinal bleeding were of 21-30 years old, with 24.1% of the total study subject. The most frequent cause of bleeding was erosive gastritis with

26.9%, duodenal ulcer 15.6%, esophageal varices 15%, severe esophagitis 7.8%, erosive duodenitis 5% and the remainder of causes were at a descending rates. These results are discussed and compared with the national and world studies.

Key words: Upper gastrointestinal bleeding, Endoscopy, Frequency and etiology, Yemen.

**Urine culture and sensitivity at Al-Gamhouria Teaching Hospital
Laboratory during the period 1997–2000 in Aden**

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Abstract

Proper treatment of urinary tract infection (UTI) depends on proper diagnosis, and diagnosis of UTI depends on culture. This study was conducted to know the common bacteria cultured in urine samples and antibiotics behaviors in sensitivity and resistance in Aden.

Careful revision was conducted retrospectively for all results of urine samples received for culture and sensitivity at Al-Gamhouria Teaching Hospital laboratory, Microbiology Unit, during the period Jan. 1st, 1997 – Dec. 31st, 2000. Significant bacteruria was detected in 768 samples (30.9%) of the totally received samples (2488), with a male: female ratio of 1:2.5 (218 males and 550 females). In this study it was observed that *Escherichia coli* is the commonest bacteria cultured in urine samples 82.6%. Drug sensitivity was reported for 398 samples (51.8%) of the significant bacteruria samples. The most sensitive drugs were Nalidixic acid (51.8%), and Gentamycin (50.3%). Samples with drug resistance were reported for 356 samples (46.4%) of positively cultured samples. Resistance started to appear to the common sensitive drugs as Trimethoprim with Sulfamethoxazole and Gentamycin; a problem that needs further experimental studies.

Key words: Urinary tract infection (UTI), Culture, Sensitive, Resistant.

**Diagnosis of Peptic ulcer diseases of upper gastrointestinal flexible
endoscopies during the period 1996 -1998 in Aden**

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Abstract

During a three-year period (1996 to 1998), a total of 2823 patients (1630 males and 1193 females) underwent for upper gastrointestinal flexible endoscopy in our endoscopy private clinic. We reviewed retrospectively all computerized

medical records and obtained information and data of 568 cases which were diagnosed as peptic ulcer patients. These cases were accounted of 20.1% of the whole patients of which 472 (75.2%) were males and 141 (24.8 %) females, with males to female ratio of 3:1. Location of peptic ulcers in both gender were 76.2% duodenal ulcers, 17.1% esophageal ulcers and gastric ulcers were 6.7%.

The ratio of duodenal ulcer to gastric ulcer was 11.4: 1. The frequency of duodenal-ulcer was predominant among males and constituted M/F of 2.8: 1.

The predominant occurrence of duodenal ulcers, gastric ulcers and esophageal ulcers in both genders were among the age group 60-69 years old. The age group 10-19 years was free from gastric ulcers.

The vast majority of common symptoms were pertaining to epigastric pain with a rate of 65.5%, followed by heartburn with the rate 43.7%. The associated complications, such as gastrointestinal bleeding (52.9%) and pyloric stenosis (47.1%) were found in (102) patients. So, peptic ulcer disease is a significant medical and social health problem in Yemen, due to several etiological factors which need further studies.

Key words: peptic ulcer, endoscopy, Aden.

Pattern of heart disease in Aden and surrounding Governorates

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Abstract

The objective of this research is to assess the relative frequency and distribution of heart disease by age and sex in Aden city and surrounding governorates. It is a retrospective echocardiographic study focused on cardiovascular diseases findings in 2185 patients; conducted in a sole regional Echocardiography Department in a referral hospital located in Aden city from January 1999 to December 2001. A total of 5074 persons suspected with heart disease were scanned by echocardiography. Cardiovascular disease was found in 43% (1268 male and 917 female) age range from days to 70 years, mean age 41 ± 19.4 years. Cardiovascular disease distribution was as follow: coronary artery disease 21.4%, rheumatic heart disease 21%, congenital heart disease 14.3%, dilated cardiomyopathy 13.8%, hypertensive cardiomyopathy 9.5%, diastolic dysfunction 7.7%, mitral valve prolapse 6.3% and others 6%. Children and young patients were affected mainly by rheumatic heart disease, congenital heart disease and mitral valve prolapse, whereas middle age was mainly affected by ischemic heart disease, dilated cardiomyopathy, hypertensive cardiomyopathy and diastolic dysfunction. Coronary artery disease and dilated cardiomyopathy predominated in male and diastolic dysfunction, rheumatic and congenital heart disease in female.

It is concluded that cardiovascular disease pattern in Southern Yemen is characterized by a wide epidemiologic transition stage; rheumatic and congenital heart diseases predominate in children and young patient while

coronary artery disease, hypertensive and dilated cardiomyopathy in adults. Patient with heart disease has less chance to reach advanced age.

Keywords: echocardiographic pattern, cardiovascular disease, heart disease, Yemen.

Clinical characteristics of febrile seizures among children admitted at Al-Wehda Teaching Hospital: July 2005-June 2006.

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Abstract

This prospective study was performed on children admitted with febrile seizures at Al-Wehda Teaching Hospital, during the period July 2005-June 2006, to illustrate the main characteristics of this important and common disorder.

A total of 69 children with febrile seizures were included in this study. The ratio of males to females was 1.3:1. The first febrile seizure in 88.4% of patients occurred during the first 2 year of life, and the median age at onset was 14 months.

Febrile seizures were simple in 63.8% of patients which was distributed equally between males and females, and complex in 36.2% with a male predominance (68%).

Family history of febrile seizure was identified in 55.1%, and the most common triggering febrile illness was upper respiratory infection (60.9%).

It could be concluded from this study that febrile seizure is a common pediatric disorder, affecting more frequently young children who have family history of febrile seizures. It is usually benign and of excellent prognosis.

Key words: Simple febrile seizure, complex, age at onset, and family history.

SHORT COMMUNICATIONS:

MATHEMATICS

Decomposition formulas for the quadruple hypergeometric functions and $F_{33}^{(4)}$

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Abstract

In this paper, the method of series manipulation has been used to investigate several decomposition formulas for the quadruple hypergeometric

functions (and), represented in terms of product of several simpler hypergeometric functions involving fewer variables.

Key words: quadruple hypergeometric function, decomposition formulas, series manipulation

MEDICINE

Isolated tuberculous orchitis simulating testicular seminoma

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Abstract

Isolated epididymo- orchitis is an unusual presentation of tuberculosis that may produce diagnostic difficulty while excluding a possible testicular neoplasm. Orchitis tuberculosis without epididymal involvement is a very rare presentation.

Patient of 30 years old complained of a swelling in the left testis since 3 months. He was diagnosed as acute orchitis. He used several antibiotics for 3 months but without improvement.

The diagnosis was testicular cancer. Left inguinal epididymo-orchidectomy was done. Histopathologic study revealed tuberculous orchitis without epididymal involvement. Postoperatively antituberculosis chemotherapy were given.

Key words: Tuberculous orchitis, simulating, testicular tumors.

Arabic Titles

AGRICULTURAL SCIENCES

The occurrence of the date palm borer *Oryctes rhinoceros* (Linnaeus) in light traps in Wadi Hadramout in 2002

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Abstract

In 2002, a trial was carried out in Wadi Hadramout in Yemen in order to study the occurrence of rhinoceros beetle *Oryctes rhinoceros* L. using light traps. Two light traps were put in two sites. The distance between each site was about one kilometer. Adult insects of *Oryctes* beetles were weekly collected from the two traps, males and females were recorded. Results of *Oryctes* beetles caught by the traps indicated that the insects began to appear in a remarkable number in both sites in March. Population density of the insect was suddenly increased to a high number in April in both sites. The numbers in traps increased gradually until it reached the peak in June. In July and August the number of insects began to decrease. Then in September the number of insects suddenly decreased to low number, compared with the number caught in August. During October, November, December., January and February, the number of insects was very low. Results also indicated that the traps caught 580 insects in five months (from the beginning of April to the end of August), while it caught only 99 insects in the remaining seven months of the year. Traps caught 385 insects in three months (from the beginning of May to the end of July), while they caught only 294 insects in the remaining nine months of the year. The population density curve of the insects during the year had only one peak, (in June). This means that the insect has only one generation in the year. The sex ratio of male to female was 1 : 1.3. Light traps could be used as a monitoring tool for *Oryctes* beetles and reduce their population in the area. It is recommended to use them in five months (April – August), or use them only for three months (May – July) in each year.

Key words: Occurrence, rhinoceros beetle, light traps, Wadi Hadramout

BIOLOGY

Identification of amoeba species in Tuban valley – Lahej (Yemen)

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Abstract

The study aims to identify some species of amoeba in Tuban valley – Al-Anad bridge – Lahej Governorate - Yemen. Samples were collected during the period of May- Dec. 2005, and were examined by light microscope connected to CCD camera.

The result has revealed the presence of seven species that belong to Rhizopoda; five belong to naked amoebae: *Thecamoeba striata*; *Vanella simplex*; *Saccamoeba* sp; *Amoeba proteus* and *Mayorella bulla*; two species belong to Testate amoebae: *Arcella vulgaris* and *Cocholpodium* sp; whereas only one belongs to Heliozoa (*Actinophrys* sp.).

Key words: Tuban Vally; Amoebae; Rhizopoda; Heliozoa.

ENVIRONMENT

Vegetative composition of plain and lower plateaus of the coastal area of Abyan Governorate

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Abstract

Coastal Plains and lower plateaus differ in their constructions. They consist of either Granites as in Al-Arqaob, Almaraqashah and Al-Aryas mountains, or of loamy rocks as in Yaramis ,Hatat and Lehboosh mountains. The geological and topographical differences in the construction of the investigated area lead to differences in the type and density of vegetation. In the field survey , about 81 species were identified; they belong to 56 genera and 37 families .

Key words : Geological construction, Topography , Vegetation .

Green tide in the coasts of Aden

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Abstract

A rare phenomenon called Bloom was observed on the coast of Aden from February 23, 2006 to March 15, 2006. Microscopic analysis of the phenomenon revealed that *Noctiluca scintillans* is the main cause for the occurrence of this Bloom phenomenon. It has also been found that the green color of the sea water during the occurrence of this phenomenon is caused by *Pedinomonas noctilucae*. The importance of this study lies in the fact that this Bloom phenomenon has been observed for the first time in the Gulf of Aden.

Key words: Bloom, Algae, *Noctiluca scintillans*, Aden, Yemen.

SHORT COMMUNICATIONS

MARINE SCIENCES

Tuna (Scombridae) Catch in the coastal water of Al-Mahra Governorate, Yemen

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Abstract

This paper defines the important species of Scombridae, fishing methods, fishing season, the important fishing grounds, and boat production per day of the important species. The important tuna species are Yellowfin tuna, of which the catch Percentage reached (80.88 %) of the total catch, and striped bonito with percentage (10.32 %). The important fishing methods used were found to be the hand line and trolling. The highest catch was during, January, March, and the lowest catch was during June, July, August and September. The highest catch was in Sayhot and Mehafeef areas. The highest boat catch of Yellowfin tuna, during the season 2003 – 2004, reached (409.6) kg /boat /day.

Key words: Catch, tuna fish, Al-Mahra Governorate, Yemen.

Fishing status and the stock of rock lobster (*Panulirus homarus*) in the coastal water of Al-Mahra Governorate during the fishing season 2003 – 2004

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Abstract

This paper discusses the fishing status and the stock of rock lobster in the coastal water of Al-Mahra Governorate in view of data collected during the season 2003 – 2004 and the negative results due to the increase of fishing effort on the stock, the quantities caught and length composition. The study indicated a package of recommendations to stop stock decline and over exploitation of rock lobster.

Key words: Fishing status, stock, rock lobster.