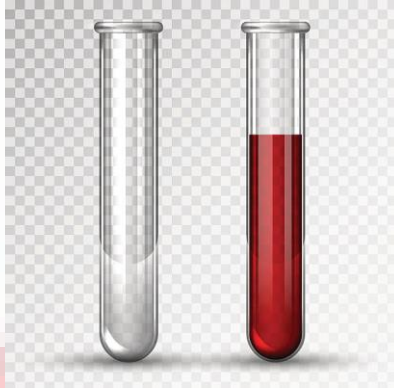
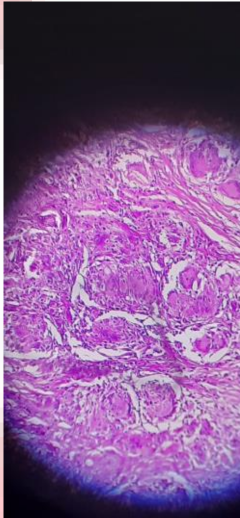
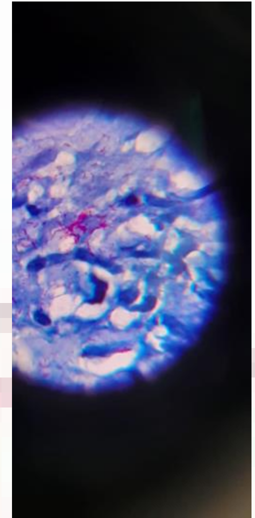
Calcutta Association of Practicing Pathologists

Newsletter Jul 2023

No. 2022-2024/01







Calcutta Association of Practicing Pathologists
Reg No. S/89238 of 1997-98, West Bengal
311/5 Prince Anwar Shah Road, Kolkata- 700095

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No. 2022-2024/01

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(2022-2024)

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A note from the President's desk

CAPP was formed with 9 stalwarts about 25 years ago.

We have grown steadily in the number as members and in our activities. As an organization it has always been receptive to the needs and demands of its esteemed members. The 2020 pandemic set us back, like most .

Now it seems like we should be ready to spread our wings!

Paying heed to the aspirations of our members, we have taken the bold step of bringing out a Newsletter, hopefully at regular intervals. This will be another effective means for us to exchange knowledge & be a vehicle to update our members on exciting advances that are taking place in the fields of Pathology and Laboratory Medicine. An important take-home-message and a brain-teaser Quiz in each issue can add zing to the learning package. While Science will take centre stage, this can also be an important social bridge among members.

I welcome suggestions and constructive criticism from all so that we can improve on our efforts. Above all, let us all get excited with this new endeavour.

With this I take great pleasure in welcoming Dr Srabani Chakrabarti who has very kindly agreed to take time out of her busy schedule to be the editor of this newsletter.

This will be another feather in the "cap of CAPP"!

As President I wish a successful launch and a long flight for our Newsletter.

- Dr Jyothi Chowdhury

Message from the Secretary

Dear CAPPstans,

After a long hiatus we are happy to publish the Newsletter from Calcutta Association of Practicing Pathologists. We are gradually picking up academic and other activities of our association which had taken a back seat during the Covid pandemic.

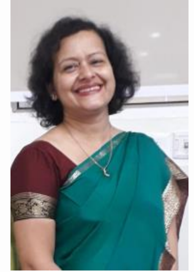
As I step forward with my responsibilities as the Secretary of this prestigious organization, I seek your whole-hearted support and good wishes in taking CAPP to greater heights. We have a great legacy as a result of remarkable contributions from former Presidents, Secretaries and other Executives of the body. This year we are going to organize a CME on “Respiratory Update” where speakers from different branches of Laboratory Medicine will share their knowledge alongside Clinicians and Radiologists. I pray for a grand success of the same.

We do plan to resume our IAT course this year and also do social welfare activities like blood donation, distribution of clothes and necessary items to underprivileged people of our society.

We are also planning to reach out to areas outside Kolkata as contemplated by past Office bearers. At the end I request all CAPP members to hold each other’s hands and fight against untoward enemies in various forms hovering around us.

Long live CAPP.
Jai Hind.

Dr. (Maj) Palash Kumar Mandal
Professor, Pathology &
Lab director, Desun Hospital
Kolkata



Editor's Letter

Dear Colleagues and Friends,

Season's greetings!

It is a matter of great pride for all of the CAPPSTANS that CAPP is going to bring out its first digital newsletter. The first printed newsletter was published more than 10 years back, continuity of which could not be maintained due to certain unforeseen circumstances. Effort is being taken to revive it in its digital avatar. From its inception decades back, CAPP has now expanded to a larger organization with many fresh young and energetic members constantly guided by a good number of respected seniors and mentors.

Though the full form of CAPP is Calcutta Association of Practicing Pathologist, it is constituted by the doctors of all the disciplines of laboratory medicine thus complementing one another and enriching the organization as a whole and taking it to a higher level.

This vibrant body has a number of activities scheduled throughout the year with support and coordination of all the members. Notable among these are CAPPCON, CMEs, internal audit training programme and CAPP picnic. Beside these, CAPP conducts quarterly meetings and get together to observe festivals. There are many other proposed activities in pipeline which will take shape and will be implemented in due course.

This newsletter aims to share information and news of CAPP activities, disseminate academic knowledge, provide a platform for personal non-academic pursuits.

Looking forward for active participation and contribution of all the members to keep this effort going.

Thank you all.

Regards
Dr Srabani Chakrabarti
Senior consultant pathologist

CAPP: A glimpse of the past
Dr. Rajat Mukherjee

I have the dubious distinction of being one of the two surviving founder members of CAPP, the other being Dr Sanjay Lahiri who lives across the oceans in the new world. Therefore, I was the one chosen by Dr Srabani Chakraborti, to write a short history of CAPP who had given this task to me few months ago. My apologies for the delay which was primarily because I was enjoying a roller-coaster ride in professional life, to borrow from Ian Fleming "I felt like a kite dancing in a hurricane". I am sorry for the digression which was primarily to explain the delay and also to warn you about some of the perils of our profession.

I will not be able to begin at the beginning but can take you all from nearly the beginning till present days. I am not aware of the exact date, but it all began in 1986 when a group of eminent Pathologists of Calcutta who had their own laboratories decided that it will be in everyone's interest to be together and support each other in technical as well as commercial issues encountered in the practice of laboratory medicine in this city, and CAPP had an informal beginning. Late Dr Padma Lahiri was the first president and Late Dr Tushar Moitra was the first secretary. The leadership team consisted of Dr Subir Datta, Dr Padma Lahiri, Dr Tushar Moitra, Dr D.J. Banerjee, Dr Ashim Mukherjee, Dr Saxena, Dr. K.K. Thakkar, Dr G. C. Pal, Dr R. N. Ghosh, and some others. The primary motto was that we will support each other, and no one should bad mouth anyone either to patients or to referring physicians. If anyone had an issue against another fellow pathologist, it was expected that they would discuss and settle it mutually.

We used to meet once a month in Calcutta Club on any suitable Friday afternoon for lunch meeting. There was a grand buffet lunch on Fridays, those days, the spreads were simply awesome and for me the food was as attractive as the opportunity to be with those stalwarts who led the practice of laboratory medicine in this city.

The discussions centered around quality related discussion for measurable lab tests. I remember us discussing issues related to correctness of Hemoglobin estimation. Some of my younger friends will be smiling but believe me that this was quite a challenge. The standards supplied by companies selling Drabkin's solution were more often than not were either wrong or deteriorated very quickly. It was decided that the group will make its own standard and that was done, using a sensitive and high-end spectrophotometer, and millimolar extinction coefficient for Hemoglobin (Dacie Lewis) we made our own standard, which was shared amongst us all. Subsequently hemoglobin results of all the participating labs had excellent concordance, the year was 1986! Another activity that was undertaken was assessment of kits, late Dr Ashim Mukherjee used to do this and share his findings with all of us. Members came out in strong support in case a fellow member ran into legal hassles, I remember one of our members had a court case against a cytology report, some senior members took the trouble of attending court hearings as expert witness and the case got dismissed. The camaraderie amongst all of us was very strong. It was one big family, the bigger the family the more the differences of opinion. CAPP had, had its fair share of petty and not so petty differences, but all these got resolved amicably.

মাঝে মাঝে বটে ছিঁড়েছিল তার, তাই নিয়ে কেবা করে হাহাকার--
সুর তবু লেগেছিল বারে-বার মনে পড়ে তাই আজি॥

CAPP got registered under the societies act in the year 1997 and that happened largely due to the initiatives of Dr. Tushar Moitra. Dr Maitra's son who is lawyer helped CAPP with the entire process or rather he did for CAPP without any fees. We will forever remain grateful to him for this. Similarly, the

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CAPP: A glimpse of the past (continued from previous page)

beautiful CAPP logo was designed by Dr Mala Banerjee's daughter Ms. Sananda Banerjee who is an architect with post graduate degree in design from NID Ahmedabad, again that was done without any fees. We are collectively indebted to her for the wonderful logo that says it all.

There were very few pathologists owned laboratories in those days, consequently CAPP membership became static, it was then that CAPP decided to open its doors to all laboratory medicine doctors provided they were working in private laboratories, Government doctors who were legally in private practice were also welcomed. I cannot recollect the year but it was probably 2001 or 2002.

The first president of CAPP was Dr Padma Lahiri and after it was registered Prof Subir Datta was the president. That committee consisted of the following members Vice President Dr T.K. Maitra. Secretary Dr Rajat Mukherjee, Jt. Secretary Dr Utpal Goswami, Treasurer Dr Jyotsna Basu, Jt. Treasurer Dr T. K. Ghosh. Executive members Dr Ashim Mukherjee, Dr Raj Vajpeyi, and Lt General A.K. Banerjee. Dr Padma Lahiri was the immediate past president.

Year 2001 to 2003. Dr T. K. Maitra was president and Dr D.J. Banerjee was the vice president. My self and Dr Jyotsna continued as secretary and Jt. Secretary. Dr. Shilaj became treasurer with Dr. Shravasti Roy was Jt. treasurer. Lt Gen A. K. Banerjee, Dr K. K. Thakkar and Dr Amar Bhattacharjee were in the executive committee with Prof Subir Datta as immediate past president.

I do have the details of subsequent committees but the sequence of past presidents was probably like this. Dr D.J. Banerjee succeeded Dr Tushar Maitra, followed by Dr Asim Banerjee and later by Dr Rajat Mukherjee.

Dr Jyotsna Basu opted out of presidentship. The subsequent presidents were Dr T. K. Ghosh, Dr Mala Banerjee and Dr Shravasti Roy followed by Dr Jyothi Chowdhury. I continued to serve CAPP as secretary during the terms of Dr T. K. Ghosh and Dr Mala Banerjee. Dr Mala Banerjee and I decided to retire from the executive committee after Dr Shravasti Roy took over, the show was for next generation to carry forward.

Notable events include AIPNA and CAPP Surgical pathology conference in 2004 under the leadership of Dr Sudipta Roy as organizing secretary. Prof Subir Datta and Lt Gen. A. K. Banerjee led the fund-raising drive, the team saved a lot of money for CAPP which was the first major break for us. Dr T.K. Ghosh and Dr Mala Banerjee had conducted a CAPPCON each followed by Dr Shubhra Dhar. All these events helped to augment CAPP assets.

Another notable exercise was 15189 training programs which proved to be an immense success.

It is very satisfying to see that CAPP is growing from strength to strength and is probably the best medical association in town. The executive committee as well as the members are very active and contribute a lot to CAPP, notable among them are Dr Sayeed Nadeem, Dr Susruta Sen, Dr Subhra Dhar the entire executive committee and a long list of bright young pathologists.

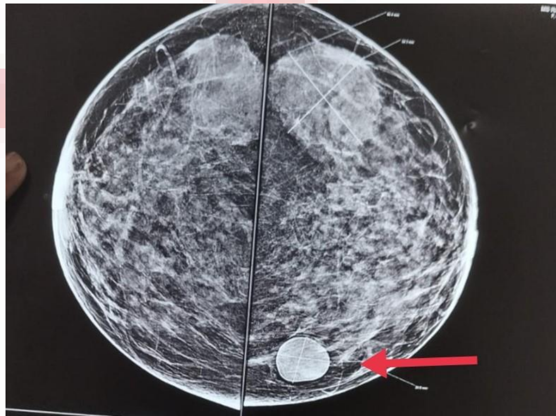
My best wishes and regards to all of you and let us remember those who are no more with us, it was they who built this CAPP for us to nourish.

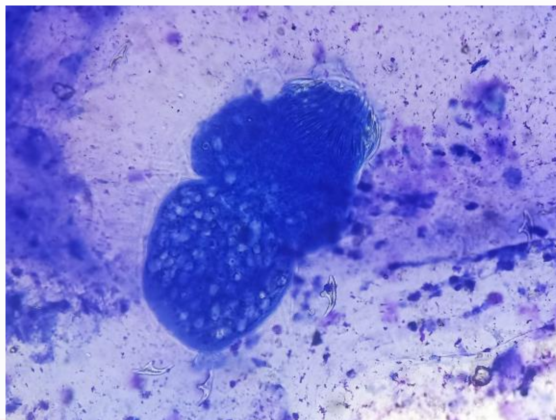
Case Report-1: Hydatid cyst of breast

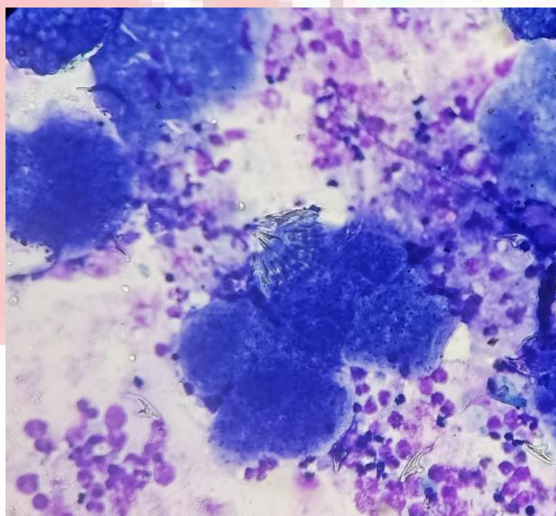
Dr. Arghya Banerjee

Mammogram: Showing a well outlined lesion at infero-medial aspect of left breast, 2.7x2.5 cm, without micro/macro calcification. Impression: benign, BIRADS 3.

FNAC smears showing hooklets and scolex of echinococcus granulosus. (Giemsa stain, 40x)
Impression: Hydatid cyst of breast.







Case Report-2: COVID 19 associated Pulmonary Mucormycosis: A rare case report
Dr Partha Guchhait

Pulmonary mucormycosis is a relatively rare pulmonary fungal disease, which is difficult to diagnose early and lacks effective treatment. It is more commonly seen in patients with hematological malignancies, diabetes mellitus, patient on immunosuppressive therapy etc. The diagnosis depends primarily on the histopathological detection of broad aseptate fungal hyphae in lung tissue or by detection of fungal DNA by Real time Pan fungal PCR.

Here we present a case of a 65 year old diabetic female, glycosylated hemoglobin (HbA1C) of 11.2 and COVID 19 infection 30 days ago treated with prolonged corticosteroids, was referred with intermittent fever, cough, respiratory distress and was mechanically ventilated on admission. Aerobic & anaerobic bacterial and fungal culture from Blood, Sputum, and Urine revealed no growth of any pathogen. Chest radiograph (CXR) showed a left lower lobe (LLL) dense consolidation with empyema intercostal chest drain was inserted. Bronchoscopy showed purulent, cheesy secretions, extensive necrosis of the LLL segments, and KOH mount of the washings suggested Broad aseptate fungal hyphae resembling Rhizopus or ? Mucor sp., later on tissue biopsy taken from wall of left lung cavity confirmed it to be a broad aseptate fungal hyphae of Zygomycetes ((? Rhizopus /? Mucor/? Lichthemia) on both GMS & PAS stain of histopathology sections (Fig 1-4) and sample was also positive for Mucorales DNA by Real time Pan fungal PCR (Fig 5). Liposomal A mphotericin B (LAmpB) was started but she expired within 3 days of initiation of therapy.

Covid 19 associated pulmonary mucormycosis (CAPM) needs a higher index of suspicion, and often bronchoscopy is needed for definitive diagnosis. Visual necrosis appears to be an adverse factor with imminent mortality, and fungal with MDR bacterial co infection can further worsen outcomes.

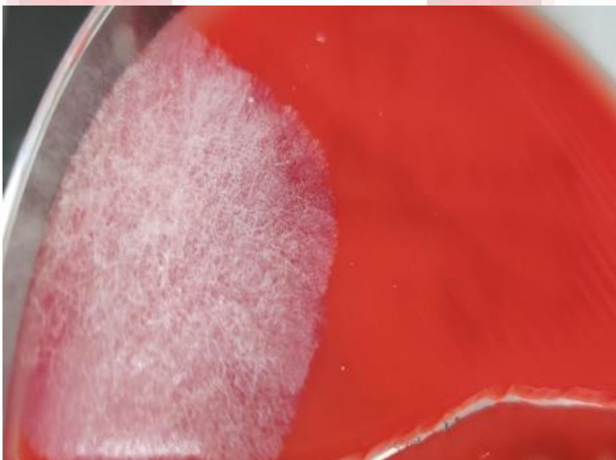


Fig 1: Mycelial growth on Blood Agar

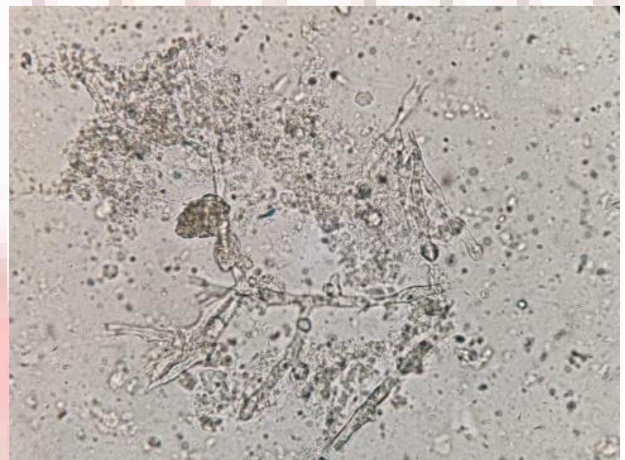


Fig 2: Direct KOH mount

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Case Report-2: COVID 19 associated Pulmonary Mucormycosis: A rare case report (continued from previous page)

Dr Partha Guchait

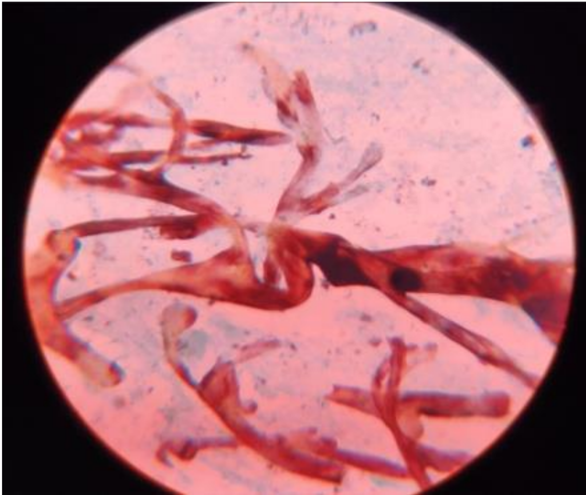

Fig 3: GMS stain on tissue section

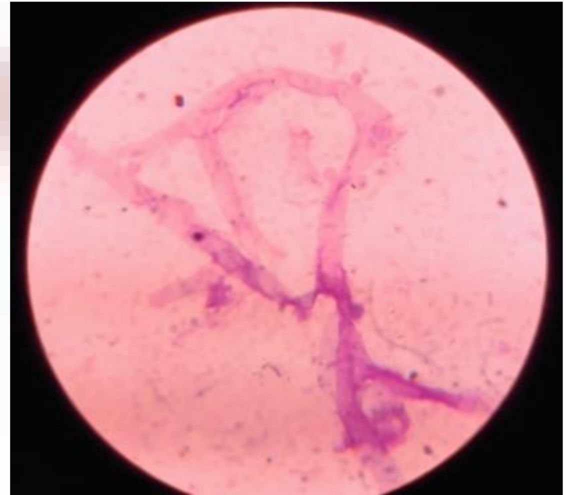

Fig 4: PAS stain on tissue section

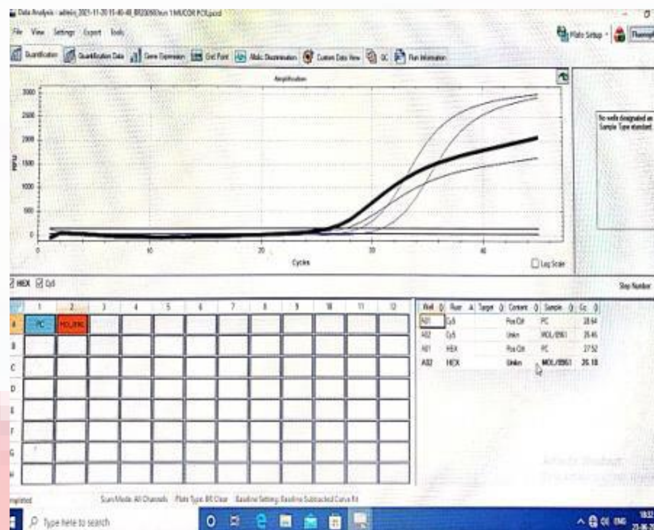

Fig 5: PCR flagged positive for Mucorales DNA

Case Report-3: CK-BB and Macro creatine kinase cause of diagnostic problems in acute myocardial infarction

Dr Priyanka Datta , Dr Abhra Ghosh

A 65-year-old diabetic, hypertensive male patient presented at emergency with severe chest pain and breathlessness on evening of 11th June 2023. SOB profile was done and elevation of Trop T and ECG changes related to AWMI were found. Immediate thrombolysis was done using streptokinase at ER. Repeat ECG after thrombolysis showed no improvement and angiography was done. Angiography showed failed thrombolysis with poor perfusion at distal part of ADA. Further blood investigations were done - Trop T 1.5 ng/ml, CKMB 260 U/L and routine parameters were within normal limits.

Patient was then transferred to cardiology Dept on next day for CABG. It was done and repeat angiography shows improved perfusion.

On Day 3 of admission, blood investigation showed - Trop T 0.3ng/ml and CKMB 258 U/L. Patient was under observation and vitals were stable except occasional drop in saturation. On Day 4, repeat Trop T and CKMB were done and the results were - Trop T 0.003ng/ml, CKMB 256U/L. Clinicians asked for total CPK from the same sample. The CK-MB level (256U/L) was greatly exceeding the CK levels (135U/L)

On Day 5, all the biochemical parameters were repeated and as follows - Trop T < 0.003ng/ml, total CK128U/L, CKMB 210 U/L. On Day 6, patient was doing fine otherwise, on medications associated with CABG, but repeated CKMB was 175U/L

Now the question is, what is wrong with the patient?

We suspected that there must have been some other pathological issue, where patient has CKBB or macro CK in his blood. We had suggested electrophoresis for CK isoenzyme quantitative assay. Report was obtained after two days showing total CK 105 U/L, CK MM - 27%, CKBB - 64%, CKMB - 9%.

The patient's hospital course was uneventful and he was discharged eight days after admission.

Questions to Consider
What can interfere with CKMB assay?
Which are the strategies to rule out their presence?

CK-MB assay by immunoinhibition method

• Human CK-MB is composed of two subunits, CK-M and CK-B which both have an active site. With the aid of specific antibodies to CK-M, the catalytic activity of CK-M subunits in the sample is inhibited to 99.6 % without affecting the CK-B subunits. The remaining CK-B activity, corresponding to half the CK-MB activity, is determined by the total CK method. As the CK-BB isoenzyme only rarely appears in serum and the catalytic activity of the CK-M and CK-B subunits hardly differ, the catalytic activity of the CK-MB isoenzyme can be calculated from the measured CK-B activity by multiplying the result by 2.

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Case Report-3: CK-BB and Macro creatine kinase cause of diagnostic problems in acute myocardial infarction (continued from previous page)

Dr Priyanka Datta , Dr Abhra Ghosh

The immunoinhibition, which is currently the most widely used method, may give falsely elevated CK-MB results in the following circumstances:

- The presence of CK BB in the serum can give falsely elevated CK MB values, as seen in healthy infants and children who have physiologically high CK BB levels in comparison to healthy adults.
- Pathological conditions that can lead to a rise in CK BB may be central nervous system damage, tumours, and childbirth
- Macro CK is another variant that can lead to falsely high CK-MB values by this method. Macro-CK type 1 is an enzyme-antibody complex formed by one of the CK isoenzymes (most often CK-BB) and immunoglobulins (most often IgG or occasionally IgA, rarely IgM) It has been found in various pathologies such as autoimmune and chronic diseases and also in healthy persons.
- Type 2 macro CK is a mitochondrion-derived macro CK present in malignancy, especially small-cell lung cancer, gastrointestinal cancer, and colorectal cancer

It is suggested that elevated CK-MB levels not consistent with the patient's condition be evaluated with electrophoresis, or better yet, with an immunoprecipitation step before electrophoresis. Immunoprecipitation is another immunological method in addition to immunoinhibition, which uses precipitating antibodies against CK-MM or CK-BB. Although this method is specific and sensitive, it requires a few hours to precipitate immune complexes and, thus, is not recommended for routine analyses in emergency laboratories

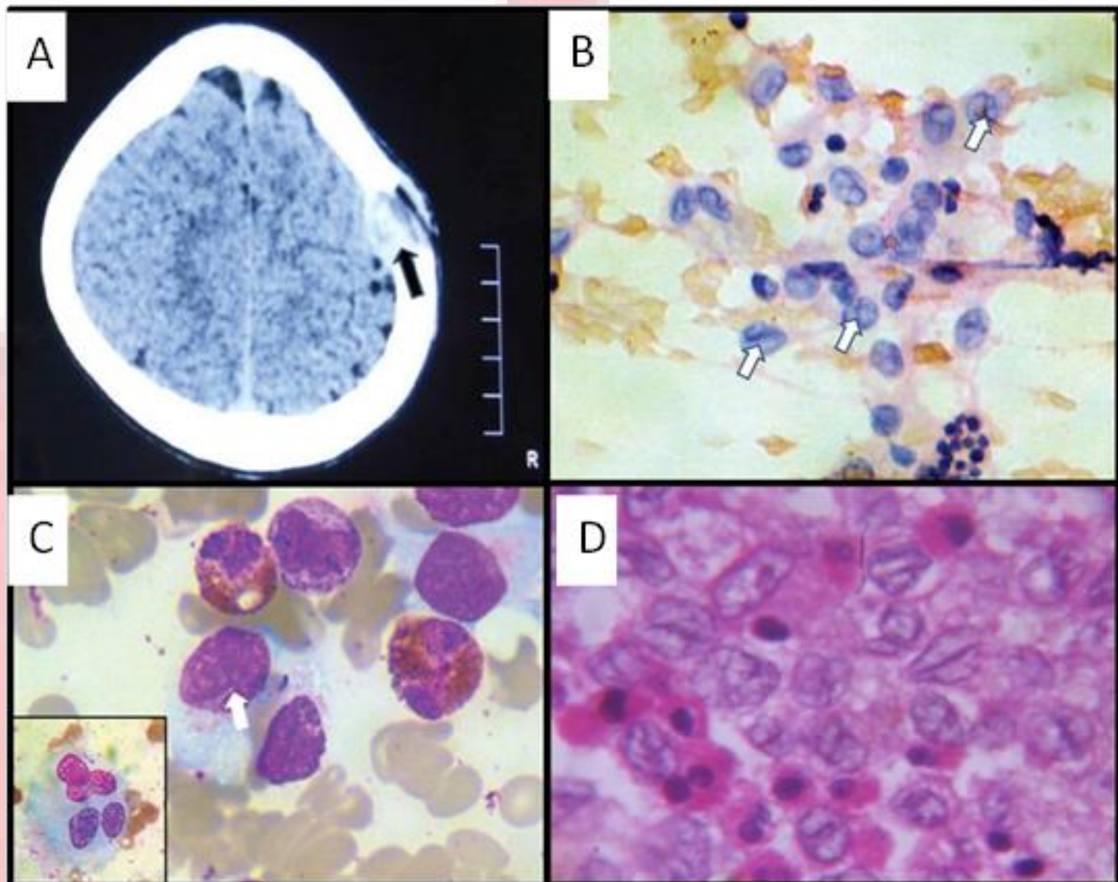
Physicians need to be made aware of the possible causes of an elevated CK MB value in the absence of cardiac pathologies to avoid wastage of precious time and resources and for the utilization of the prognostic value of variant CK isoenzymes. In such situations, it is recommended to:

- Find out which method was used for the estimation of CK MB
- Take a complete history from the patient to assess the probability of the presence of CK MB/Macro CK in the serum.
- Confirm the presence of various isoenzymes and atypical forms of CK in the serum by electrophoresis.

Quiz Case-1:

A 13-year-old boy presented with a painful swelling in the right lateral part of the head for the last three weeks. There was no history of trauma. The patient had no other complaints.
On examination, a swelling of about 3 cm in diameter was seen in the right parietal bone, which was soft and tender. The underlying bone appeared to be indented on palpation.
The patient had no lymphadenopathy, organomegaly, skin rash, or other abnormality.

Figure 1 : A. CT scan of skull showing the lesion; B & C. Cytosmears from FNAC done from the swelling; D. Histological picture of the lesion



The CT scan (Figure 1A) shows an osteolytic lesion in the skull with the destruction of the inner and outer table (arrow)

Figure 1B shows Langerhans histiocytes with reniform nuclei and nuclear grooves (arrows). Eosinophils and RBCs are seen in the background (Papanicolaou stain; × 100 magnification)

Figure 1C shows Langerhans histiocytes with nuclear grooves (arrow) with eosinophils and a neutrophil. Inset shows a multinucleated histiocyte (MGG stain; × 400 magnification)

Figure 1D shows histopathological picture confirming the presence of Langerhans cells and eosinophils.

The IHC showed positivity for S100 and CD1a (not included in the pictures)

Diagnosis: (Answer at the end of this newsletter)

Quiz Case-2:

A 58-year-old male farmer presented with a few crusted plaque-like lesions on the forearm and hand; some of them were raised with ulceration; there was evidence of sclerosis around some lesions. There was a history of trauma in the hand. The biopsy showed the following histopathological features.

Figure 2

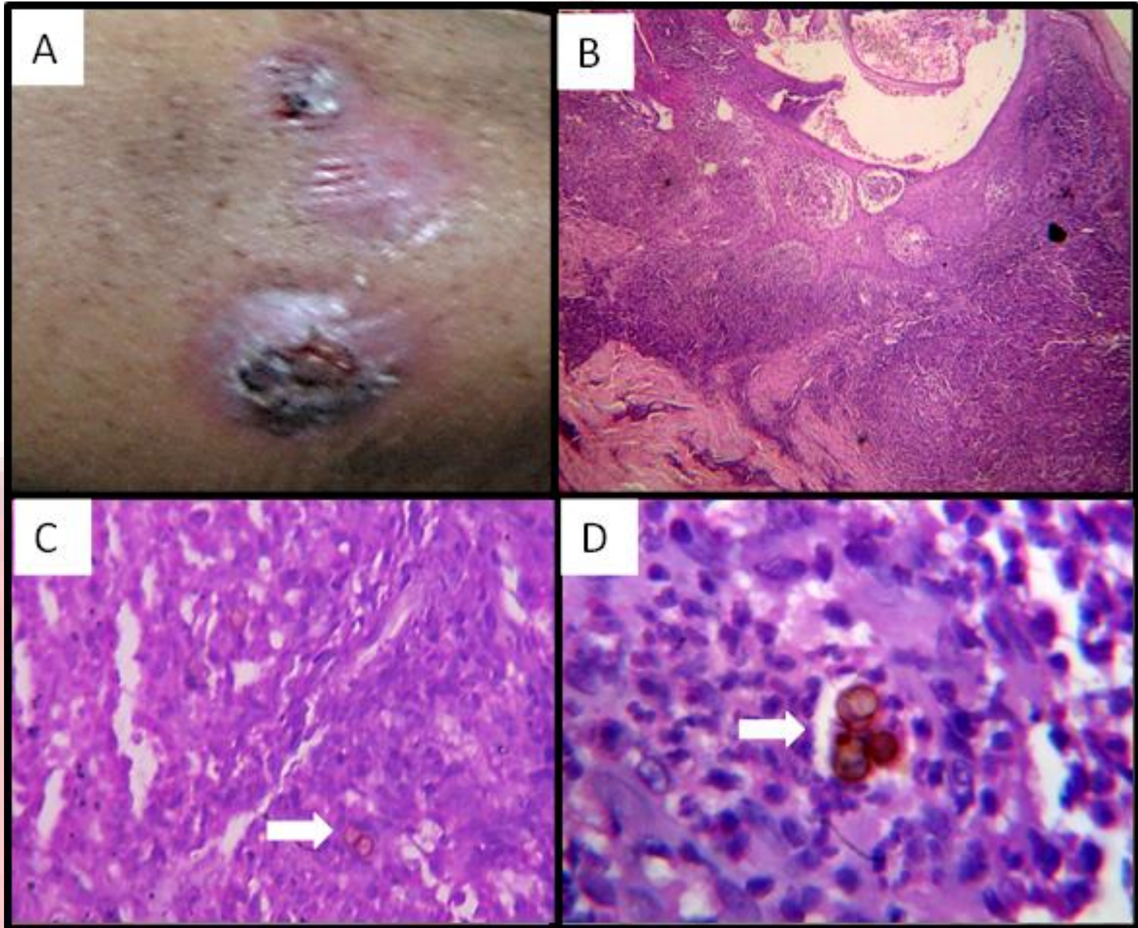


Figure 2A showed crusted raised lesions with sclerosis. The histopathological features showed papillary hyperplasia of squamous epithelium with neutrophilic intraepidermal abscess. Dense inflammatory reaction was seen in the dermis with neutrophils and eosinophils (Figure 2B)

Figures 2C and D show the presence of the characteristic pigmented fungal sclerotic bodies (arrows) resembling "copper pennies" (also known as Medlar bodies)

Diagnosis: (Answer at the end of this newsletter)

Quiz Cases submitted by:
Dr Indranil Chakrabarti
Additional Professor,
Department of Pathology and Laboratory Medicine
AIIMS Kalyani
West Bengal.

Gallery

CAPPCON 2018

CME

CAPP Picnic

Answers to Quizzes

Case 1: Diagnosis: Eosinophilic granuloma

Case 2: Diagnosis: Chromoblastomycosis

THANK YOU

For going through this newsletter
We will come up with more very soon