MEDICAL

NEWSLETTER

BEYOND βETA

OCT-DEC 2023

www.pathkindlabs.com

ABOUT PATHKIND

Pathkind was started by the promoters of Mankind Pharma and Mr. Sanjeev Vashishta to provide superior quality diagnostics services accessible to the masses at affordable prices through innovative means. Our National Reference Lab (NRL) is in Gurugram, spread across 40,000 square feet and has state-of-the-art equipment. We started our operations on 11th August 2017 and in a short span of a little over 5 years, Pathkind has set up an impressive network of 100+ labs (including 12 NABL (National Accreditation Board for Testing and Calibration Laboratories) Accredited / Certified Labs), 3000+ collection centres, about 5000 pickup points across 26 states, 375 districts and about 1000 cities / towns across India. It has eight centres of excellence namely:

- Histopathology and IHC (Immunohistochemistry)
- Molecular Biology and NGS (Next Generation Sequencing)
- Genomics, Cytogenetics and FISH (Fluorescence in Situ Hybridization)
- HLA (Human Leukocyte Antigen) and Transplant Immunology
- Hematology & Flow Cytometry
- Specialized Chemistry (LCMS / ICPMS)
- Biochemistry
- Microbiology & Serology

The company's endeavor is to reach out with its superior quality diagnostics offerings to the masses including tier III/IV cities/ towns. Some of the tests which are being promoted by the company include:

- Newborn Screening Tests (NBS)
- Non Invasive Prenatal Screening (NIPS)
- Phadiatop for Allergy Screening
- Therapeutic drug monitoring with LCMS (Tacrolimus, Sirolimus, Everolimus, Cyclosporine)
- Component Resolved Diagnostics (CRD)
- TB NGS

We have a very passionate and dedicated team of professionals including the doctors, scientists, technicians and other professionals who are highly skilled and experienced in their respective areas of expertise.

In our newsletter – Beyond Beta, we are going to showcase some of those rare cases which are seen first hand by our specialists and share the best practices of the diagnostic industry with our readers.

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From the Desk of our MD & CEO

It is heartening to witness the changing perception about diagnostics in the post Covid-era. While for the last decade or two, we know that 70% of the clinical decisions are taken by the clinicians post going through the diagnostic investigations, yet we can't ignore the banality of this understanding. The masses by and large don't appreciate the real importance of accurate diagnosis and for many, diagnostics report is merely a ticket to get an appointment from a senior doctor / specialist. The good news however is that this perception is changing as people are becoming more and more serious and discerning about their health. Further, the clinicians are also ushering the patients to the labs / diagnostics centres that stand for superior quality. It is no brainer that we need to take diagnostics seriously and make far more investments in the diagnostics sector to bring down the overall healthcare costs. The right diagnosis at an early stage would not only ensure initiation of early treatment, it shall also bring large savings to the exchequer and those individuals who are paying for healthcare out of their own pockets. It shall also contain "loss of productivity" and keep the citizens healthy.

It is our earnest endeavor at Pathkind to work closely with all our esteemed prescribers and to provide them with the accurate reports consistently to strengthen their hands to prescribe the right treatment and bring smiles to the faces of their patients. We appreciate these fact that while established labs that stand for quality by and large have similar testing platforms, right process, qualified and trained manpower, we at Pathkind consider all there factors as mere hygiene. We firmly believe, in today's era, it is vital for us to remain closely in touch with our prescribers and be at their beck and call in terms of providing them with accurate reports, collaborate with them by explaining the report and helping the worthy clinicians to corroborate their diagnosis with our reports. Needless to mention, all our labs have Fully Automated Analysers when only 20% of the labs in our country use automation (majority of the labs in our country either carry out the work manually or use semi automated platforms), each and every lab of Pathkind has a qualified, skilled and trained Pathologist / Microbiologist / Biochemist doctor. Our intransigence as far as providing superior quality diagnosis to all our customers, prescribers and patients is concerned, is beyond compromise. All our labs follow the protocols, guidelines of policies stipulated by NABL and we are committed to getting the IQC and EQAs right in all our labs each time consistently.

In the last issue of 'Beyond Beta', I shared with you how we are expanding our network across the length and breadth of our great and vast country and how we have absorbed the latest high-end technologies / platforms including Mass spectrometry, transplant immunology, automation across all the deptts., to ensure availability of superior quality diagnostics (including esoteric tests) under one roof. We firmly believe that it is the "Man" behind the "Machine" which is more important and for that reason we ensure each and every individual joining Pathkind is well qualified, skilled and has the right attitude. We are cognizant of the fact that 'people' build great organizations institutions and therefore we provide extensive trainings and organize orientation programs for all the team members from time to time. These intervention could be on the technical expertise, team building, reinforcing the right skills etc. These interventions are very ably lead by our Learning and Development Deptt and are well supported by our doctors / scientists at Pathkind, CCG, HR and other senior colleagues.

It has been our sincere endeavour to share with your some of the complex and interesting cases that our doctors (Pathologists / Scientist) stumble upon during the course of diagnosis. We are thankful to all our worthy prescribers who not only actively participate in arriving at the conclusive diagnosis but also are a source of inspiration to all of us by challenging us to take up such complex cases.

To conclude, I take this opportunity to thank you all for finding time from your busy schedule to go through our Newsletter. It is indeed our proud privilege to always get your unconditional support. It is indeed gratifying and inspires us to do better and better in terms of providing you with accurate reports consistently within the best possible Turn Around Time.

I look forward to receiving your guidance, trust and support on a continuing basis and take this opportunity to wish you and your family a very happy and prosperous festival season and Deepawali. Stay healthy and happy!

With kind regards,

Sanjeev Vashishta

A case report of two Kala Azar cases- diagnosed on bone marrow aspiration

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BACKGROUND

Visceral leishmaniasis (VL) is a chronic and fatal parasitic disease which affects the organs due to infection by the protozoa- Leishmania donovani, transmitted by bite of female sand fly Phlebotomus argentipes (1).Kala-azar is endemic in 54 districts across Bihar, Jharkhand, West Bengal and Uttar Pradesh with 140 million population at risk (2). It is characterized by fever, hepatosplenomegaly and pancytopenia.

In human beings, the disease presents in four different forms with a broad range of clinical manifestation: visceral leishmaniasis, or kala-azar; cutaneous leishmaniasis; mucocutaneous leishmaniasis; and diffuse cutaneous leishmaniasis. The life cycle of Leishmania involves two forms, the promastigote and the amastigote which multiplies intracellularly in the reticulo-endothelial cells of the host. Even though this disease is prevalent in many regions of northern India, the diagnosis is difficult at times. Confirmation of diagnosis is made by microscopic demonstration of the parasite in bone marrow aspiration,biopsy or splenic aspirates (3).

CASE 1

A 50 yrs male from Bhadohi (UP) presented with PUO (pyrexia of unknown origin), anemia and leucopenia since 2 months. There was no organomegaly on examination. We received BMA (bone marrow aspiration) smears for further evaluation. Marrow was hypercellular with M:E ratio of 3.5:1. Erythroid, myeloid and lymphoid series showed normal maturation pattern. High power examination showed the presence of Leishmania donovani (LD) bodies (amastigotes) which were seen as both intracellular and extracellular forms. A nuclear body along with a distinct kinetoplast was well appreciated (Fig.1,2). As there was no organomegaly, Kala-azar was not part of differential diagnosis for this patient. The diagnosis was further confirmed serologically by a positive rK39. Patient improved within a week of starting amphotericin B.

CASE 2

A 50 yrs male from Siwan (Bihar) presented with PUO with massive splenomegaly, pancytopenia with relative monocytosis (12%). BMA smears were sent to us for confirmation of clinical diagnosis of Kala Azar. The bone marrow aspirate were normocellular with M:E ratio of 1.7:1. The erythroid and myeloid series were unremarkable. Also noted was an increase in plasma cells and they comprised ~12% of total nucleated population. Both intracellular and extracellular LD bodies were noted (Fig.3,4). Patient tested positive for rK39 and responded well to treatment for Kala Azar.

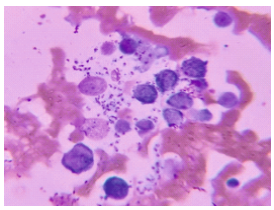

Fig.1 Intracellular and exracellular LD bodies (100x)- Case 1

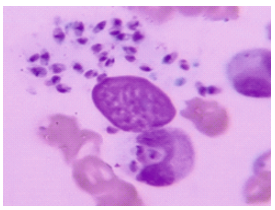

Fig. 2 LD bodies (100x, magnified view)- Case 1

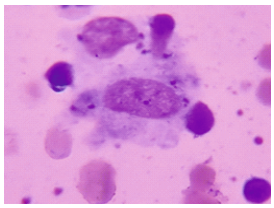

Fig.3 Macrophage showing LD bodies (100x) - Case 2

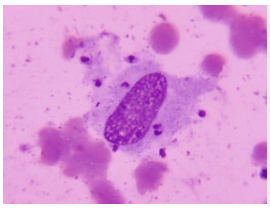

Fig.4- Macrophage showing LD bodies (100x)- Case 2

CONCLUSION

As eastern UP is endemic for Kala Azar, patients presenting with PUO & bicytopenia/pancytopenia should undergo BMA & Leishmaniasis should always be kept as a differential diagnosis whether or not organomegaly is present. Monocytosis & plasmacytosis are additional findings in such cases (4). Kala azar can be fatal if left untreated hence timely detection can save patient lives.

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Conjunctival Melanoma: FNA (Fine Needle Aspiration) Diagnosis

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BACKGROUND

Conjunctival malignant melanoma is an uncommon life threatening malignancy. It is an aggressive tumor of melanocytes, which accounts for 2-5 % of all ocular malignancies (1,2,3).

CASE REPORT

A 68 year male presented with blackening of left eye for last 1-1.5 years. Ophthalmologist performed the FNA procedure and sent the alcohol fixed smears to Pathkind Labs. Smears examined microscopically after staining with papanicolaou (pap) stain, revealed scattered as well as group of pleomorphic round to oval tumor cells with central to eccentrically placed nucleus, coarse chromatin, prominent nucleoli and moderate amount of cytoplasm. Binucleated tumor cells and occasional bizzare cells seen. Intracellular and extracellular brownish black pigment noted. A FNA diagnosis of Melanocytic lesion favouring Malignant Melanoma given (Fig. 1,2,3).

DISCUSSION

Malignant melanoma is a malignant proliferation of melanocytes. Conjunctival melanoma is an uncommon deadly tumor arising from the melanocytes of conjunctival epithelium.

Predisposing factors includes conjunctival nevus, primary acquired melanosis (PAM) or it may arise denovo.

Mostly patient presents with painless brownish black pigmented eye lesion.

Investigations and diagnosis: Clinical examination can differentiate the conjunctival melanoma from other pigmented lesions of eye. MRI (Magnetic Resonance Imaging) is a useful tool in patients presenting with extraorbital tumor involvement. For early diagnosis and treatment plan FNA with clinicoradiological findings is an important diagnostic tool as in our case. For definitive diagnosis excision biopsy with histopathological and immunohistochemical examination is the gold standard.

Prognosis: Overall prognosis of conjunctival melanoma is poor with high recurrence rate. To improve the prognosis, patients should be in regular follow-up at 4-6 months interval (1,2,3).

CONCLUSION

As conjunctival melanoma is a rare lethal prognostically poor tumor. Early diagnosis of this lethal disease is necessary to limit the spread of the disease. FNAC is an important and cheap tool helping in early diagnosis and planning of the treatment.

Fig. 1 Blackish Pigmentation

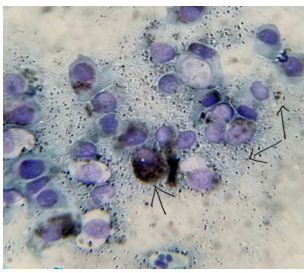

Fig. 2 High Power

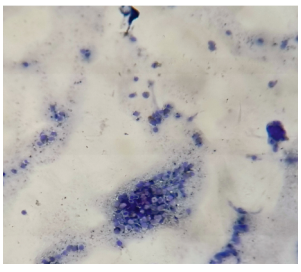

Fig. 3 Low Power

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You may share your views with us on **BeyondBeta@pathkindlabs.com**