Correspondence

Plagiarism Run Amuck: Why the Cat Ought Not Guard the Canary

Sir,

Dr. Sapatnekar’s timely editorial on plagiarism¹ should be rightfully acknowledged. With the possible exception of unjust incarceration there are few deeds more evil than that of the willful plagiarist. Recently the issues of plagiarism and scientific misconduct including falsification and data fabrication have been at the forefront of the headlines worldwide highlighting the need for an immediate and appropriate response to preserve good science practices, yet little is being done to curtail this troubling trend in science.²⁻⁵ As Dr. Sapatnekar astutely points out the recently adopted Ethical Guidelines for Biomedical Research on Human Subjects issued by the Indian Council of Medical Research in 2000 are sufficiently vague as to permit plagiarism to occur. Although a clear set of guidelines outlining acceptable scientific practice is certainly prerequisite to preserving research integrity, guidelines themselves are useless when the power to enforce them is unilaterally vested in the offending institution. Take for example the U.S. where a formal set of guidelines has existed since 1992 when the Office of Research Integrity⁶ was established, yet these policies can be manipulated and offer little protection against rampant scientific misconduct when the overriding goal is the preservation of institutional reputation and grant acquisition infrastructure.

Truth be told plagiarism and other forms of misconduct are becoming increasingly common these days⁷ and junior researchers are not the only perpetrators. In fact, all too often the unfortunate casualty of utilizing self-policing measures to investigate scientific misconduct cases are graduate students, foreign fellows and junior researchers who are frequently naive about the convoluted investigatory process.⁸ Allowing institutions to police themselves in matters of scientific misconduct when so much is at stake is akin to allowing the proverbial cat to guard the canary. Turn your back and you have one fat cat and one less canary. Compounding the problem, US universities are allowed to conduct misconduct inquiries under a cloak of secrecy,⁹⁻¹⁰ disguised as privacy or due process, yet still complying with ORI guidelines. This secrecy makes it impossible to ensure the rights of junior whistleblowers are duly protected and confounds efforts to reliably assess the full extent of the misconduct problem.

Nonetheless, the argument can no longer be made that scientific misconduct is rare. Keyword searches on ‘scientific misconduct’ using Entrez-PubMed, (NCBI National Library of Medicine) return an average of 163 citations/year since 1992 and only 64/year in the decade preceding 1992. Similar searches on ‘plagiarism’ return an average of seven articles/year from 1982-1992 compared to an average of 24 articles/year since 1992.¹¹ Clearly, instances of misconduct and plagiarism are rising¹² to troubling enough levels to warrant immediate action in order to preserve the integrity of the scientific process. Just as complacency allowed the recent scandals to occur in the US Navy and the Catholic Church, a similar fate will befall our discipline if we as physicians and scientists do not act to expose and expunge this growing problem.

I agree whole-heartedly with Dr. Sapatnekar’s supposition that the publish-or-perish mentality prevalent at most biomedical research institutions coupled with a healthy dose of careerism fueled by an evolutionary-driven arms race for success at any cost are to blame for the growing misconduct epidemic infecting science today. Not only are faculty members willing participants in deceptive administrative tactics to exonerate guilty parties, many are financially compensated during subsequent salary reviews for their favourable involvement in university-sanctioned cover-ups.¹³ Since these realities aren’t likely to change anytime soon, resolution to the misconduct matter has to come through alternate means.

To most effectively deal with plagiarism and misconduct current systems of guidelines and self-policing measures

Fig. 1: Just as the cumulative erosive forces of wind and water act to undermine this sandstone outcrop in Grand Ledge, Michigan so too scientific misconduct erodes the base of scientific inquiry (Photo taken by author).
must change. The full extent of the misconduct problem must be assessed by conducting widespread and non-anonymous surveys of all forms of misconduct occurring at biomedical facilities and research institutions. This task would be greatly facilitated with the active cooperation of scientific journal editors and granting agencies alike and could be mandating as a condition of publication or receiving government-sponsored funding, for example. Additionally, all misconduct investigations should be open to public scrutiny to remove the veil of secrecy that fortuitously shields unscrupulous administrative tactics. Furthermore, a series of checks and balances must be established that gives the authority to enforce established good science guidelines to an independent body of informed, non-partisan reviewers who are unaffiliated with the institution under investigation. These suggestions would serve equally well for all nations presently developing and/or revising plagiarism and scientific misconduct policy. Provided these remedies are widely implemented in the not-too-distant future we might still preserve the integrity of our scientific endeavors before the public’s confidence is too far eroded and we are left with an empty canary cage.

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Vanishing Tumours of the Liver

Sir,

Tuberculosis (TB) can involve any organ of the body. Around 20% of all abdominal TB patients have solid organ involvement, of which 20% have hepatic involvement.\(^1\) Hepatic TB is usually secondary to a primary focus elsewhere or rarely primary; and may present in a variety of forms. It occasionally mimics mitotic lesions.

JA, a 60 years male patient presented with acute onset dull aching pain in the right upper abdomen. Clinical examination revealed icterus and mild right hypochondrium tenderness.

Blood investigation were- total count 13,500/cumm; DLC-86% polymorphs, 14% lymphocytes and no eosinophils, monocytes and basophils; ESR 66 mm AEFH; Hb 12.5 gm%; total bilirubin 4.63 mg/dL with a direct fraction of 4.09 mg/dL; ALT 102 IU/L; AST 81 IU/L; alkaline phosphatase 391 IU/L and total protein 5.7 mg/dL with a A/G ratio of 3.4. No viral markers were detected. USG and CECT of the whole abdomen revealed multifocal hypo-echoic and hypo-attenuated lesions (Fig. 1) respectively in the right hepatic lobe, suggesting a mitotic or an infective etiology. There was no evidence of abdominal lymphadenopathy.

FNAC, chest X-ray and other relevant investigations were planned but the patient opted to attend a higher tertiary care center, where a histologic (FNAC) diagnosis of suspected metastasis of squamous cell Ca was made. He refused palliative stenting and chemotherapy and returned one month later with an increase in the severity of pain and jaundice. He now developed daily evening rise of temperature. Review of the investigations done at the tertiary center revealed an increase in total bilirubin and alkaline phosphatase to 14.16mg/dL and 430 U/L respectively. The PA view chest x-ray showed multiple calcified foci in the upper zone of the right lung, without any evidence of active disease (Fig. 2). Repeat abdominal USG showed an increase in the sizes of the

Fig. 1: CECT of the abdomen showing multiple hypo-attenuated lesions in the right lobe of the liver.
previous hypo-echoic lesions, which now also contained echogenic debris.

Considering the changing clinical and radiological features, an alternative possibility of a tubercular abscess was entertained. A repeat FNAC was done, at which blood stained fluid was aspirated. The histologic picture consisted of a few degenerated hepatocytes against a necrotic background with plenty of granulomatous inflammatory cells and occasional giant cells (Fig. 3). However, tubercle bacilli could not be demonstrated on Ziehl-Neelsen staining. The patient was put on a trial of ATT, to which he responded well, as evidenced by clinical improvement and progressive regression of the multiple lesions on serial 2 weekly USG. Lesions healed completely by 8 weeks with residual scars as shown by a repeat CECT (Fig. 4). The patient completed the course of ATT and is currently disease-free for the last two years.

Although any form of tuberculosis may affect the liver, it is the miliary form that is the commonest (75-100%). This is characterized by epitheloid granulomas of 1-2 mm. Tuberculoma and abscess may present as masses of upto 12 cms. These are the lesions that commonly lead to diagnostic confusion with hepatic tumours and amoebic or pyogenic abscesses.

The liver function abnormalities depend on the type of hepatic involvement. In tuberculoma or abscess, the alterations resemble that of neoplastic lesions (raised bilirubin and alkaline phosphatase without significant alteration in transaminases). CT shows solitary or multiple hypodense masses with or without internal calcification. However, there are no radiological findings specific for the disease. Gupta S et al have described four distinctive histological abnormalities namely, non-specific inflammatory reaction with predominant mononuclear cells (~40%), granulomatous reaction with caseation (~29%), focal hyperplasia of Kupffer cells ('Retothelial nodules') (~17%) and fatty changes (~13%). AFB is infrequently found in tubercular liver abscess.

Treatment with a four drugs ATT regimen for one year is usually sufficient, supplemented by palliative biliary decompression by ERCP guided stenting, percutaneous transhepatic drainage or surgery.3

It seems likely that the liver abscesses in our case were in evolution during the initial radiological and histopathologic work up, thereby giving rise to disparate findings. With progression, features more suggestive of a tubercular abscess surfaced; and the favourable response to ATT confirmed the diagnosis in spite of the absence of the AFB in the lesion.

In conclusion, we emphasize the need for consideration of tubercular lesions in the differential diagnosis of any SOL of the liver irrespective of the radiological features. The histopathologic features should also be interpreted with caution.

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