



## Adli Tıp Kurumunda kan lekesi model analizinin son beş yılı

### Last five years of bloodstain pattern analysis in the Council of Forensic Medicine of Turkey

Murat Nihat Arslan

Corresponding author: Murat Nihat Arslan  
Morgue Department, The Council of Forensic Medicine, Fevzi Cakmak M, Kimiz Sk. No:1 Bahcelievler, 34196 Istanbul, Turkiye  
email: [mnarslan@yahoo.com](mailto:mnarslan@yahoo.com)

ORCID:  
Murat Nihat Arslan : 0000-0002-9916-5109

#### ÖZET

**AMAÇ:** Kan lekesi model analizi, kan açığa çıkmış olay yerlerinde olaylar zincirinin ortaya konulmasında en önemli disiplinlerden birisidir. Türkiye’de kan lekesi model analizi laboratuvarının resmi ilk temelleri 2008 yılında atılmış ve resmi olarak dosya kabulüne 2010 yılında başlamıştır. Adli Tıp Kurumu Kan Lekesi Model Analizi Laboratuvarı Biyoloji İhtisas Dairesinin yapılanması altında kurulmuş ve olay yerinde çekilen fotoğraflar/video kaydı, mağdur/sanığın kıyafetleri gibi materyal üzerinden incelemeler yapmaktadır. Türkiye’de olay yeri incelemesine katılmadan yapılan kan lekesi model analizi dosya incelemelerinin kısıtlılıkları ve yaşanan sorunların ortaya çıkarılması planlanmaktadır.

**YÖNTEM:** Çalışmanın amaçları kapsamında 2013-2017 yılları arasında Adli Tıp Kurumu Biyoloji İhtisas Dairesine kan lekesi model analizi amacıyla gönderilen dosyalardaki veriler incelenmiştir.

**BULGULAR:** Son beş yıl içinde 30 dosya kan lekesi model analizi ile ilgili sorularla gönderilmiş olup herhangi bir olay yeri incelemesine davet olmamıştır. Tüm dosyalar cinayet iddiası bulunan dosyalar olup dosyaların büyük çoğunluğu soruşturma aşamasında gönderilmiştir.

**SONUÇ:** Bu çalışmadan elde edilen veriler kan lekesi model analizinde olay yeri incelemesi aşamasının öneminin adli birimler tarafından çok iyi anlaşılmadığı görülmüştür. Üst makamların sorularına bakıldığında olaylar zinciri ile ilgili açık ve net sorular sorulmamış olduğu görülmüştür, bu da adli birimlerin kan lekesi model analizi disiplininden neler beklemeleri gerektiğinden habersiz olduklarını da göstermiştir. Kan lekesi model analizi disiplininin de soruşturmaya katılan tüm organların hizmet içi eğitimlerine dahil edilmesiyle kan lekesi model analizi ile ilgili bilinç düzeyi artırılabilir.

**Anahtar Kelimeler:** Kan lekesi model analizi, Adli Tıp Kurumu, kısıtlılıklar

#### ABSTRACT

**OBJECTIVE:** Bloodstain pattern analysis (BPA) is one of the most important disciplines in crime scene investigation in bloodshed events on determining the chain of events. In Turkey bloodstain pattern analysis laboratory established in 2008 under the structure of Biology Department of the Council of Forensic Medicine (CFM), but started dealing with case files in 2010. BPA Laboratory of the CFM deals with case files with crime scene photographs, crime scene videos and clothes obtained from victim or perpetrator. Also laboratory has a role on providing expert witness opinion for crime scene investigation. Aim of this study is to reveal major problems confronted in cases of BPA branch of Biology Department of BPA.

**METHODS:** Data acquired from case archive of BPA Branch of Biology Department of CFM between the years 2013 and 2017.

**RESULTS:** In last 5 year period, 30 cases were referred to BPA Branch. No crime scene visit performed during this time period. All cases were homicide cases and most of them referred on the investigation period.

**CONCLUSION:** Data of this study revealed that importance of the scene investigation could not be understood by the judiciary authorities. In this study problems about claims were determined that; there were no specific questions about the chain of events, judiciary bodies were unaware about BPA that didn't know what to ask or what to expect from BPA. Inclusion of BPA topic into in-service training programs of all judiciary bodies could raise the level of the awareness and knowledge.

**Keywords:** Bloodstain pattern analysis, Council of Forensic Medicine, limitations

## INTRODUCTION

Bloodstain pattern analysis (BPA) is one of the most important disciplines in crime scene investigation in bloodshed events on determining the chain of events (1, 2). In Turkey bloodstain pattern analysis laboratory established in 2008 under the structure of Biology Department of the Council of Forensic Medicine (CFM), but started dealing with case files in 2010. BPA Laboratory of the CFM deals with case files with crime scene photographs, crime scene videos and clothes obtained from victim or perpetrator. Also laboratory has a role on providing expert witness opinion for crime scene investigation.

Aim of this study is to reveal the case spectrum of the BPA Laboratory of the CFM, and to discuss the limitations of investigations limited with case files and clothes, without attending to the crime scene investigation.

## MATERIAL VE METHODS

Cases were selected from the case archive of the BPA Laboratory of CFM, which were concluded between the dates January 1st of 2013 and December 31st of 2017. Information about the judicial authority, claim of the authority, type of the incidents were collected from the archive files. Sufficiency of collection of bloodstained evidences and documentation of the scene were discussed towards the case file context.

## RESULTS

During last five years BPA laboratory dealt with 30 case files. Distribution of cases by year was presented on table 1. No crime scene visit performed during this time period. Among these 30 cases, in 6 files only crime scene photographs and documents were sent. In three cases scene

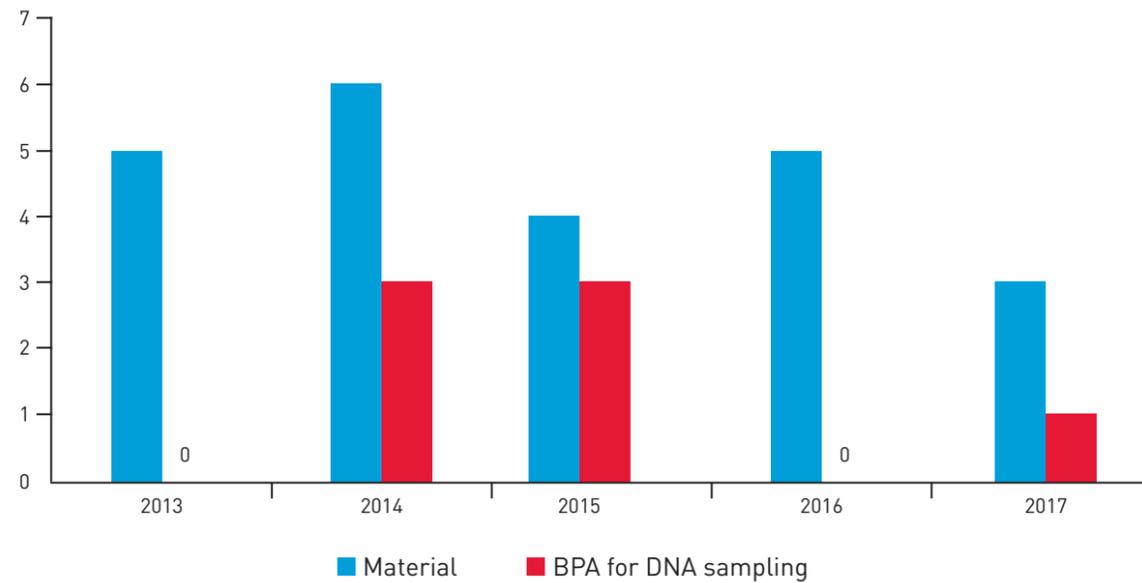
photographs and clothes sent together for investigation. In 17 cases only clothes or materials collected from scene were sent. In 4 cases only documents were sent and general information requested.

Distribution of judicial authorities was like following: 6 files from High criminal courts and 22 files from Chief Public Prosecutor's Office (remaining 2 cases sent from a civil court of first instance and criminal court of first instance). All cases were homicide cases and Judicial authority sought answers about the chain of events either with general questions or specified questions like "Were bloodstain patterns on clothes formed with transfer or impact mechanisms?" or "Were the formation mechanisms of bloodstain patterns matching with the statements of suspects or witnesses?" etc. The questions were; "explanation of events" in 16 cases, "where the crime scene was" in 1 case, "who the driver was" in 1 case and "to write a general report about bloodstains" in 5 cases.

In all cases, in which the crime scene document referred to the laboratory, scene photography was not enough to make decisions about bloodstain patterns in following three topics: Quality, number and methods. Also in none of the cases there were no adequate scene sketches or notes in the investigation file.

## CONCLUSION

Bloodstain pattern analysis laboratory work has many limiting factors including proper crime scene methodology (presumptive chemical tests, documentation of scene, sample collection etc.) and well directed claims from judiciary authorities. For adequate crime scene methodology, scene investigation staff should have knowledge about recognizing and classification of bloodstain patterns and also about proper documentation of bloodstains (3-8). Major prob-

**Table 1:** Distribution of cases by year

lem confronted in casework was to be limited with the BPA knowledge level of crime scene investigators. In all reports, limitations arising from case file investigation without visiting the crime scene were mentioned and limitations of conclusions were clearly stated. While there is limited number of solved specific questions including “discrimination the classification of pattern, reconstruction of chain of events”, in most reports general questions about chain of events left unanswered due to limited information about crime scene.

The role of bloodstain pattern analysis is to define the facts surrounding the incident. Evaluation of the physical properties of bloodstains may provide information about the chain of events occurred during the bloodshed event (1, 2, 4, 5). Writing reports on bloodstain patterns also needs well directed questions from judiciary bodies. In this study problems about claims were determined that; there were no specific questions about the chain of events, judiciary bodies were unaware about BPA that didn't know what to ask or what to expect from BPA.

In a published survey study it was mentioned that crime scene professionals have limited knowledge about BPA, its terminology and methodology (1). Most dangerous point has been introduced by authors that scene investi-

gation personnel and also judicial authorities trying to evaluate bloodstain patterns by their limited knowledge. In Turkey there are few scientists complete internationally valid certification training programs (9). Current study also has coherent results that judicial authorities didn't know what to expect from BPA methodology also didn't know “what to claim from the analyst” and also there were critical errors on crime scene documenting for bloodstain patterns.

In this study problems about materials were determined as; there were no crime scene invitation in last five years. All clothes and fabrics collected from scene and people in the crime scene irrespective to contain bloodstains or not.

BPA has two main stages: Scene phase and Laboratory phase. Data of this study revealed that importance of the scene investigation could not be understood by the judiciary authorities. No scene visits or invitations are the strongest evidences of this.

Biology Department dealt with approximately 4500 to 5200 case files per year, and only the 30 cases in five years seems too small number in that huge caseload. At least sample collection for DNA analysis needs proper classification

of bloodstains. This problem is not arising only from the judicial authorities; it is also related with the Biologists working at the Biology Department.

At the in-service training programs of the Biology Department, BPA methodology, at least bloodstain classification and terminology lectures were given, so that the caseload of “BPA for sampling DNA” did not reflect to the case load of the BPA Branch. 2015 survey study revealed that neither biologists, nor the forensic medicine specialists aware of the benefits of the BPA methods to the investigation.

Then what to do?

- Training of the crime scene officers with in-service training programs.
- Internationally valid certification with basic and advanced BPA training to improve crime scene documentation skills and improve the approach to the bloodstain evidence.
- Introducing and explaining the benefits of BPA methodology to the judiciary authorities with conference presentations or also with in-service training programs may provide the authorities aware of BPA.

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